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Sir:

Pursuant to 37 C.F.R. § 1.99, the undersigned hereby submits a publication relevant to the examination of the above-referenced application. This Submission is accompanied by a check for the \$180.00 fee set forth in 37 C.F.R. § 1.17(p) and is filed within two months of the date of publication of the above-referenced application. Therefore, this submission is timely.

The publication submitted for consideration by the Examiner, including the date of publication, is as follows:

Liquid Audio, Inc., *Liquifer Pro 4.0 for Windows™ User's Guide*, 468 pp. (1998).

This publication is in the English language. A copy of this publication is attached.

The undersigned certifies that a copy of this filing has been served upon the Applicants of the above-referenced application on February 15, 2005 via First Class Mail to their attorney of record, at the following address:

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P.O. BOX 70250  
Oakland, CA 94612-0250

A self-addressed postcard is included herewith. Kindly acknowledge receipt of this submission by returning the enclosed postcard to the undersigned.

Respectfully submitted,

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# *Liquifer Pro 4.0 for Windows™*

## *User's Guide*



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# *Introducing Liquifier Pro*

Welcome to the Liquifier Pro 4.0 for Windows™ the premiere Internet mastering and encoding software from Liquid Audio®. The Liquifier is the first professional software that provides artists secure preview and purchase of CD-quality music over the Internet to users of PCs and Macs everywhere.

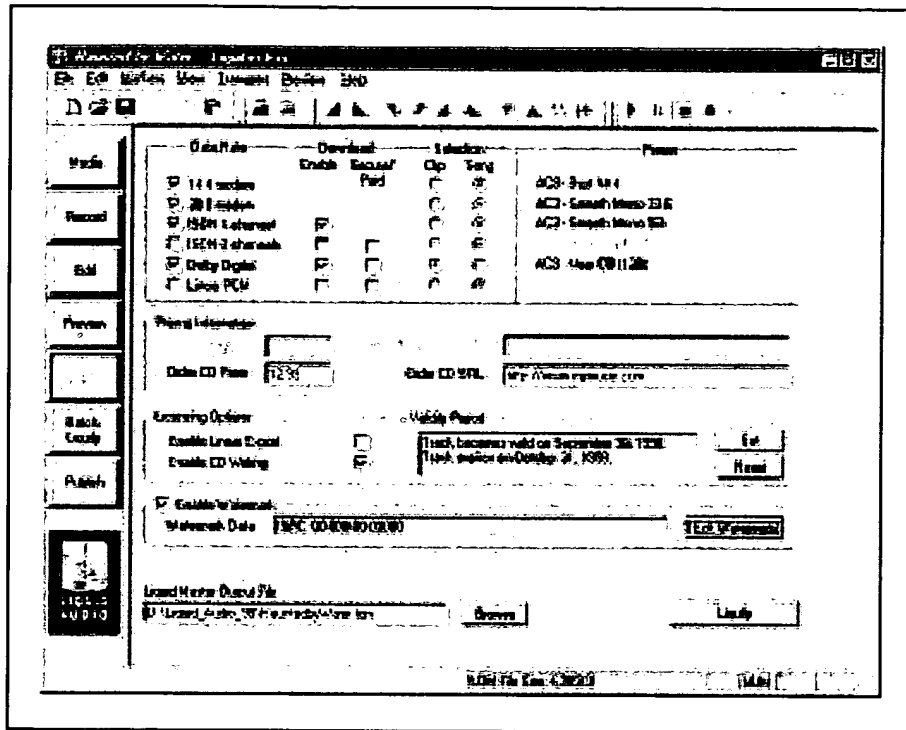
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## Get Liquified

The Liquifier Pro contains everything you need to prepare and publish CD-quality music for secure, electronic distribution. One touch encoding creates a single file that includes descriptive text, graphics, and superior-quality audio that can be streamed or downloaded.

In addition, the Liquifier is the only Internet mastering tool with Dolby Digital AC-3 and MPEG-2 AAC encoding for true CD-quality downloads. Once published to a Liquid Music Server, consumers can preview and purchase music from a Web site using the free Liquid Music Player software.

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*Liquifier Pro for Windows*

The Liquifier Pro provides all the tools you need to encode, master, and publish your music, including:

- Support for analog or digital sources for recording or importing audio sound files
- Batch encoding functions to save time while maximizing sound quality
- Dolby Digital AC-3 and MPEG-2 AAC encoding for true, CD-quality sound
- Extensive song licensing options
- Integrated Digital Signal Processing (DSP)

• Security features including encryption, watermarking, and user certification to prevent piracy	1
• Cut, copy, paste, delete, and fade functions for editing clips and songs	2
• Multi-rate preview and optimized signal processing for standard Internet connection speeds	3
• Drag-and-drop publishing to a Liquid Music Server	4
• Music-on-Demand and electronic commerce support	5
• Auto URL links to your web site or a Liquid Music Server	6
.....	7
Preview Before Encoding	8
The Liquifier Pro allows you to simulate the end-user listening experience by previewing audio at a wide-variety of data rates. Select from a library of professionally created encoding presets or create your own.	9
The Liquifier's unique preview capability allows you to compare encoding presets, without taking time to encode an entire song. You can even compare the processed file to the original during playback. This makes it easy to find the optimal amount of data reduction needed to achieve sonic transparency with the original master recording.	10
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## Complex Processing Made Easy

Delivering high-quality audio at 28.8 Kbps is a challenging task requiring extensive signal processing. The Liquifier Pro makes this process easy with its powerful built-in DSP. First, a conversion module performs bit-rate dependent, stereo-to-mono processing and high-quality, sample-rate conversion.

Next, 4-band parametric equalization can be applied if desired. Finally, an integrated dynamics module performs simultaneous compression, expansion, and limiting followed by Dolby Digital AC-3 or MPEG-2 AAC encoding. With the touch of a single button, the Liquifier Pro automates this entire series of operations to optimize sound quality for each different connection speed.

## Encryption and Digital Watermarking

The Liquifier Pro is the only encoding tool that provides both anti-copy and anti-piracy protection. Encryption technology scrambles the audio so that only the intended listener can play it. Digital watermarking helps prevent piracy by providing a mechanism to identify bootleg copies of a recording.

As part of the encoding process, Liquifier Pro optionally embeds inaudible information in the audio stream that can be decoded during playback. A digital watermark cannot be removed without seriously degrading the sound quality of a recording.

.....	1
Batch Encoding	2
Need to encode hundreds of CDs in a matter of days? The Liquifier makes it easy by containing extensive productivity enhancements. Extract the songs or samples from an entire CD in minutes using the Liquifier's batch-extraction feature. Next, batch encode hundreds of files with a single click. Batch encoding saves time while maximizing sound quality.	3
.....	4
Electronic Commerce	5
The Liquifier Pro also includes support for electronic commerce. Not only can pricing be set for online downloads, the Liquifier will also allow you to enter pricing for mail order CD sales. In addition, you can establish connections to a secure merchant server which can process credit card transactions.	6
.....	7
Secure Publishing	8
With the Liquifier's built-in Publish pane, there's no need to upload files using confusing FTP software. Once you've logged into your Liquid Music Server account, simply drag-and-drop encoded files to the server to publish them.	9
After the secure transfer is complete, more than sixty fields of descriptive text, lyrics, and artwork from the encoded file are automatically exported into a database. This information can be used to dynamically create Web pages without any user-intervention.	10
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1 Adding audio from a Liquid Music Server to your Web site is  
2 easy because the Liquifier provides a URL for each file  
3 published. This link can be pasted into the HTML for your  
4 Web site or sent using e-mail for audio approvals.

5 .....  
6 **The Liquid Music System—How It All Fits**  
7 **Together**

8 The Liquifier Pro is part of an integrated suite of applications  
9 developed by Liquid Audio that comprises a complete music  
10 delivery system.

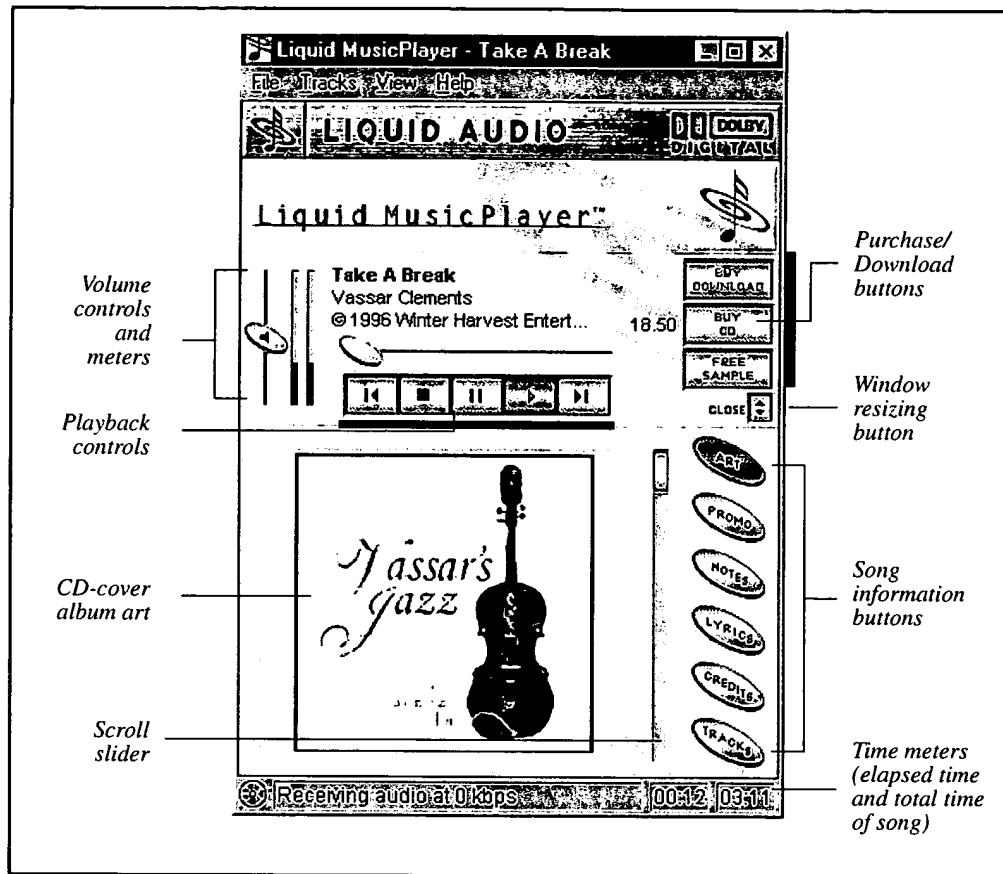
- 11 • **Master and encode**—Master and encode for the Internet  
12 using the Liquifier Pro for Windows or Macintosh.
- 13 • **Publish and host**—Publish and host Liquid Tracks using  
14 the Liquid Music Server.
- 15 • **Preview and purchase**—Preview and purchase  
16 CD-quality Liquid Tracks on your Macintosh or Windows  
17 PC using the Liquid Music Player.

18 **Liquid Music Server**

19 A server is where you keep all your assets—the audio and  
20 media data—everything that you serve up after using the  
21 Liquifier Pro. But Liquid Audio supplies server software that  
22 does a lot more. It monitors traffic on the Net and ensures  
23 smooth delivery to the Liquid Music Player. It includes an  
24 SQL database and can hook into larger, industry-standard  
25 SQL databases, such as those from Informix and Oracle. It  
integrates into your software as well as supporting any  
number of outside commerce packages.

The flexible design of the server allows you to send dynamic	1
product and promotional information such as sale price, tour	2
schedule, discounts and coupons; along with the Liquid	3
Track to be received by the Liquid Music Player. You end up	4
with the ultimate solution, containing your important stuff	5
and all the tools to make life easier.	6
<b>Liquid Music Player</b>	7
The Liquid Music Player is software that lets a user preview	8
or purchase CD-quality music from the Internet. More than	9
that, it allows Web visitors to see album graphics, lyrics,	10
liner notes and promotions while listening to the music. It's	11
like an online version of a typical CD—but it's more than	12
simply online music.	13
Exclusive Dolby Digital AC-3 and MPEG-2 AAC	14
technology provides superior sound. Liquid Music Player	15
offers additional features, including a personal Music	16
Organizer, and the ability to easily record an actual Red	17
Book audio CD that can be played on any home, car or	18
portable stereo system.	19
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*Liquid Music Player*

Web site visitors can use the Liquid Music Player to:

- Browse the album or CD cover artwork.
- Read the liner notes, credits, and other song-specific information that you provide.
- Stream a clip or the entire song as an audio preview.
- Download a brief clip of the song as a preview.

• Purchase the song, then download a CD-quality version.	1
• Record the newly purchased song on to a blank CD.	2
In summary, your Web site visitors can use the MusicPlayer	3
to preview, purchase, and record Liquid Master files you've	4
produced with the Liquifier Pro software.	5
<b>Liquid Operations Center</b>	6
Who's going to check to see that your customer has a valid	7
license? For that matter, how can you be certain that a	8
distributor's Liquid Music Server is licensed? This is why	9
Liquid Audio developed the Liquid Operations Center.	10
The Liquid Operations Center is a third-party entrusted	11
system for delegating and enforcing licensing between the	12
key parts of the system—licenses for consumers using the	13
Liquid Music Player, distributors using the Liquid Music	14
Server, and publishers using the Liquifier.	15
In addition to managing this process through registration,	16
authentication and certificate generation, the Liquid	17
Operations Center takes over the responsibility for rights	18
reporting to the appropriate agencies.	19
<b>Liquid Audio Music-On-Demand System</b>	20
The Liquid Audio Music-On-Demand System contains	21
components that are extremely powerful in their own right.	22
But as an integrated, end-to-end system it's a powerful tool	23
for promoting, marketing and selling music over the Internet.	24
Every component of the Liquid Music System has been	25
designed specifically for electronic music distribution.	
Browse our Web site to learn more about Liquid Audio and	
hear music by artists who already have been Liquified.	

.....

## About This Guide

- **Chapter 1 Introducing Liquifier Pro**—Introduces the Liquifier Pro 4.0 for Windows, explains what it does, and describes the suite of applications that comprise the LiquidMusic System.
- **Chapter 2 Getting Started**—Provides installation procedures and information about system requirements for installing and using Liquifier Pro 4.0 for Windows. Also suggests how to prepare materials and media to get started using Liquifier.
- **Chapter 3 Liquifier Pro Window**—Describes the components of the Liquifier window, including menus, commands, and buttons.
- **Chapter 4 Liquifier Pro Files**—Provides an overview of the file types used during the Liquifier Pro production process.
- **Chapter 5 Creating Media Files with Text and Graphics**—Explains how to use the Media pane to add descriptive text, graphics, or other media-related information for display in the Liquid Music Player
- **Chapter 6 Importing Audio Tracks from CD**—Explains how to use the CD Import pane to import audio tracks from a pre-recorded compact disc into Liquifier Pro.
- **Chapter 7 Recording Audio from a Sound Card**—Describes how to use the Wave Record pane to record audio through a sound card directly into the Liquifier Pro.

• <b>Chapter 8 Selecting Audio</b> —Discusses how to use the Edit pane to select passages of audio from a WAV file for encoding. The audio images, which are represented as clips and songs, are used to preview, stream, and download music on the Internet.	1 2 3 4
• <b>Chapter 9 Editing Audio</b> —Explains how to use the Edit Pane to modify source audio by copying, cropping, or deleting selected passages from a file.	5 6
• <b>Chapter 10 Previewing Audio</b> —Provides procedures for using the Preview pane to select, encode, and compare the quality of audio images using various preprocessing options.	7 8 9
• <b>Chapter 11 Creating User Presets</b> —Describes how to create your own presets using the following options provided in the Preview pane:	10 11 12
• <b>Chapter 12 Setting Advanced Encoding Options</b> —Explains how to use the Preview pane to apply advanced encoding options, such as audio bandwidth, equalization, and dynamics processing, to fine-tune audio compressed with Dolby AC-3 or MPEG-2 AAC encoders.	13 14 15 16
• <b>Chapter 13 Liquifying Individual Files</b> —Discusses how to use the Liquify pane to encode an individual audio image for streaming, downloading, or purchase over the Internet.	17 18 19
• <b>Chapter 14 Liquifying Multiple Files</b> —Provides procedures for using the Batch Liquify pane to liquify a large number of audio images for final distribution in the Liquid Master file format.	20 21 22
• <b>Chapter 15 Publishing Liquid Masters</b> —Describes how to use the Publish pane to upload Liquid Master files to your account on a Liquid Music Server.	23 24 25

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- **Chapter 16 Customizing Liquifier Pro**—Describes user-customizable options you can set to facilitate your work productivity during a Liquifier Pro session.
- **Glossary**—Describes terms used in this guide.

# Getting Started

This chapter lists the system requirements for using Liquifier Pro and explains how to install the software on your Windows PC. This chapter illustrates a typical workflow for using Liquifier Pro—from editing, previewing, and encoding audio images to publishing your music on a Liquid Music Server. Finally, it gives recommendations for preparing to use Liquifier Pro, such as obtaining music server information, gathering graphics- and text-based files, and preparing audio sound files.

## System Requirements

- Any Pentium/CPU (Pentium II recommended)
- 32 MB of RAM (64 MB recommended)
- 500 MB available hard disk space for recording (1GB recommended)
- Any 16-bit Windows-compatible sound card
- Supported Plextor CD-ROM drives (Requires a SCSI card)
- Speakers
- Microsoft Windows 95/NT 4.0
- Color display (800 x 600 or greater)

- 28.8 Kbps modem, ISDN, or LAN-based Internet connection\*
- Microsoft Internet Explorer or Netscape Navigator (3.x or later)\*
- Liquid Music Player (included)

\* Required to publish and audition files only.

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## Installing Liquifier Pro

To install Liquifier Pro:

- 1 Insert the Liquifier Pro 4.0 CD into your CD-ROM drive.
- 2 Click the **Start** button, and then point to **Run**.  
The Run window opens.
- 3 Click **Browse**.  
The Browse window opens.
- 4 In the **Look In** list, select the **CD-ROM** drive.  
The Liquifier files appear in the window.
- 5 Select the file named **SETUP . EXE**.
- 6 Click **OK**.

The Browse window closes and the installation process starts. The setup Wizard will guide you through the setup process.

When installation is complete, the Liquifier Pro program group is added to your Startup menu and the Shortcut to Liquifier Pro icon appears on your desktop.

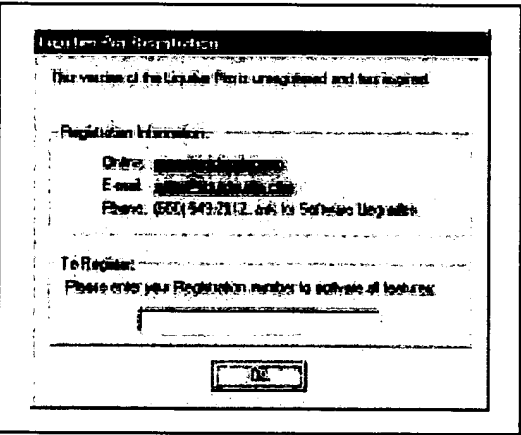


*Liquifier Pro Shortcut*

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## Registering Liquifier Pro

This section explains how to register Liquifier Pro the first time you use it. When you double-click the Liquifier Pro shortcut your desktop, the Liquifier Pro Registration window appears.



*Liquifier Pro—Registration Window*



To register Liquifier Pro:

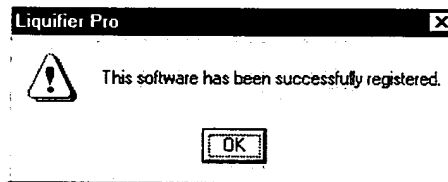
1 Under **Registration Information**, do one of the following:

- To register online, click [www.liquidaudio.com](http://www.liquidaudio.com).
- To register by E-mail, click [sales@liquidaudio.com](mailto:sales@liquidaudio.com).
- To register by phone, call the Sales department at (650) 549-2112 and ask for Software Upgrades.

2 Under **To Register**, type the registration number that was included with your packaging.

3 Click **OK**.

An information window displays indicating if registration was successful.



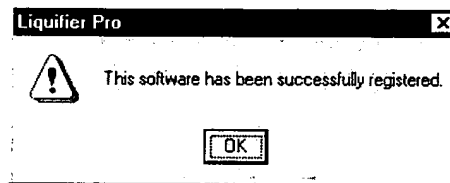
.....	1
<b>Evaluating Liquifier Pro</b>	2
	3
You can evaluate Liquifier Pro without registering it.	4
Liquifier Pro will operate in Demonstration mode for 30	5
days. You can register the Liquifier Pro at any time during	6
these 30 days using the Registration window.	7
<b>Demonstration Mode—Restrictions</b>	8
	9
When you use Liquifier Pro in Demonstration mode, the	10
following restrictions apply:	11
• The application expires after 30 days. At that time, you	12
will need a valid registration number to use Liquifier Pro.	13
• All Liquid Master files created in demonstration mode are	14
set to expire 45 days after the application is installed.	15
• You cannot create encrypted content.	16
<b>Evaluating Liquifier Pro</b>	17
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To evaluate Liquifier Pro:	19
► Click <b>OK</b> in the Registration dialog without entering a	20
registration number.	21
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## Registering Liquifier Pro during the Evaluation Period

To register Liquifier Pro during the evaluation period:

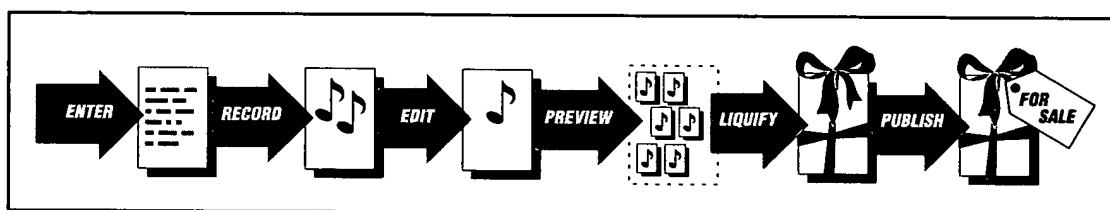
- 1 From the **Help** menu, click **Register Now...**
- 2 Under **Registration Information**, do one of the following:
  - To register online, click [www.liquidaudio.com](http://www.liquidaudio.com).
  - To register by E-mail, click [sales@liquidaudio.com](mailto:sales@liquidaudio.com).
  - To register by phone, call the Sales department at (650) 549-2112 and ask for Software Upgrades.
- 3 Under **To Register**, type the registration number that was included with your packaging.
- 4 Click **OK**.

An information window displays indicating if registration was successful.



## Workflow for Using Liquifier Pro

This section presents a typical workflow for using Liquifier Pro. If you're a new user, you might want to review the basic steps required to take an audio file from an analog or digital source all the way to the Liquid Master file and ultimately to the final product—a Liquid Track that consumers can stream or download from the Internet.



*Liquifier Pro—Workflow*

The Liquifier Pro takes source material—CD-quality digital audio, text and graphics—and encodes it into a form that is compact and secure enough to be distributed over the Internet. At the heart of this process is the file that stores all this information, the Liquid Master File.

The Liquid Master File is a proprietary format that includes text, graphics, and audio compressed for multiple data rates, all in the same file. The first five steps in the typical workflow, from Media to Liquify, serve the sole purpose of creating high-quality Liquid Master files. The final step, Publish, takes these Liquid Master files and uploads them to a Liquid Music Server for streaming and downloading to the Internet.

## Liquifier Pro—Workflow

- 1     **Media**—Enter text and graphics in the Media window.
- 2     **Record**—Import the source audio from CD or record it  
3         through your sound card.
- 4     **Edit**—Open the source audio in the Edit pane as a  
5         linear audio file. Audition the source audio in the Edit  
6         pane and select separate song and clip images.
- 7     **Preview**—Preview the consumer audio experience  
8         from the Preview pane by encoding short segments of  
9         the source audio at selected connections speeds. Select  
10        the encoding presets that sound the best for your source  
11        audio.
- 12    **Liquify**—Liquify all the previous images, text, and  
13        graphics in the Liquify pane to generate the final  
14        package—a Liquid Master file.
- 15    **Publish**—Publish the Liquid Master file to your Liquid  
16        Music Server using the Publish pane—effectively  
17        offering it for sale to your Internet clientele.

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## Preparing to Use Liquifier Pro

Before using Liquifier Pro, you might want to gather the information and source material you'll need to get started.

### Media

Gather all media-related information pertaining to the music you want to publish on the Internet. This information can include song title, album title, artist names, composers, recording information, copyright notices, lyrics, credits, and other notes that might be included on an album cover or a CD booklet.

Arrange to have the album and any promotional art scanned into your computer as GIF (graphic interface format) files.

## Record

Prepare the audio sound files by selecting the source material you want to use, such as live recordings or pre-recorded material. Additionally, determine the media you want to use for the audio sound files, such as DAT tapes or CD tracks. Typically, you use a CD-ROM unit to import CD tracks—both individual songs or whole collections.

## Publish

To publish your Liquid Master files you will need an account on a Liquid Music Server (LMS). Contact an LMS provider to acquire an account. You may want to write down your LMS provider information in the worksheet provided.

Provider Name: _____
Provider URL: _____
Account Administrator: _____
Administrator contact: _____

1 Your LMS provider should supply you with the following  
2 information:

- 3 • **LMS name**—The name of the server to which you will  
4 publish your LQM files. The name can be the DNS  
5 (Domain Name Server) entry address, such as  
6 indie.liquidaudio.com, or the IP address of the server, such  
7 as 209.133.109.52.
- 8 • **Publish port**—The port number for the publish server.  
9 (Typically, this is 7002.)
- 10 • **Account name**—The name of your publish account on the  
11 LMS.
- 12 • **Account password**—The password you will need to  
13 supply to login to your account.
- 14 • **Additional information**—Any additional information  
15 specific to the configuration of your account (such as  
16 download price format, or download URL specification).  
17 This information is specific to each LMS provider and  
18 should be provided by your account administrator.

You may want to write down this information in the worksheet provided below.

Server Name:_____
Port:_____
Account Name:_____
Password:_____
Additional Information:
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You are now ready to use Liquifier Pro.

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# Liquifier Pro Window

This chapter describes the main components of the Liquifier Pro window, including the menus, commands, tabs, and buttons.

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## Opening the Liquifier Pro Window

Two methods are available to open the Liquifier Pro application: the Liquifier Pro shortcut or the Start menu.

### Using the Shortcut

To open the Liquifier using the desktop shortcut:

- Double-click the **Liquifier Pro** shortcut.



The Liquifier Pro window opens on your desktop.

## Using the Start Menu

To open the Liquifier using the Start menu:

- 1 Click the **Start** button, and then point to **Programs**.  
The Programs menu opens.
- 2 Point to **Liquid Audio**, and then point to **Liquifier Pro 4.0**.
- 3 Release the mouse button.

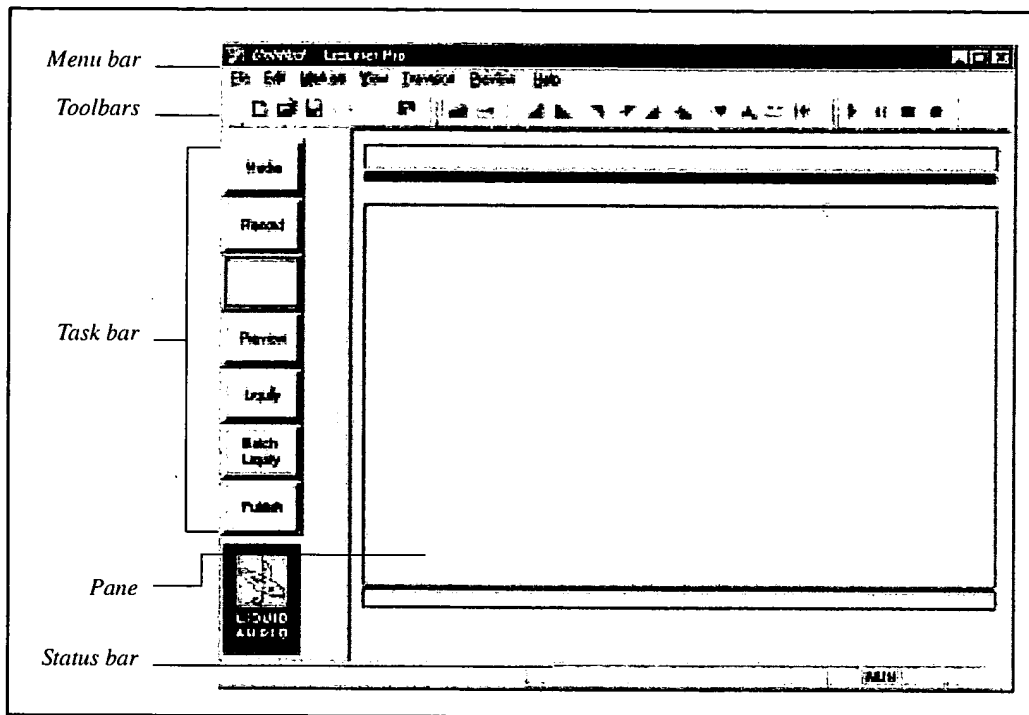
The Liquifier Pro window opens on your desktop.

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## A Tour of the Liquifier Pro Window

The Liquifier Pro window provides the following main components:

- **Menu bar**—Provides commands for using Liquifier Pro.
- **Toolbars**—Provides four toolbars for quick access to Liquifier commands while working in different workspace panes.
- **Task bar**—Displays buttons for accessing workspace panes.
- **Pane**—Displays the currently selected pane.
- **Status bar**—Provides information about the current selection, if available.



*Liquifier Pro Window*

## Menu Bar

This section describes the commands in the Liquifier Pro menus: File, Edit, Markers, View, Transport, Preview, and Help. Procedures for using the commands described in this section are presented in subsequent chapters in this manual.

## File Menu

- **New**—Creates a new workspace file.
- **Open**—Opens an audio, Liquid Master, or workspace file.
- **Close**—Closes the current file.
- **Save**—Saves the current workspace.
- **Save As**—Saves the current workspace to a new file.
- **Save WAV Audio Selection As**—Save the current audio selection as a WAV file.
- **Import Media**—Imports media information from an existing Liquid Master file, a Liquifier Audio Workspace file, or a formatted text file into the Media pane.
- **Export Media**—Creates a formatted text file from the media information in the Media pane and exports it to a pathname of your choice. The information is formatted so it can easily be included in a database for search operations.
- **Preview Media in Player**—Launches the Liquid Music Player so you can audition an audio sample without accessing the Internet. Requires that you install the Liquid Music Player application on your PC.
- **Clear Media**—Clears all text- and graphics-based media entries in the Media pane and resets them to their default settings.
- **Liquid Master>File Summary**—Displays a summary of the contents of an LQM file.
- **Liquid Master>Bind to Server**—Binds the paid audio image to a server certificate file on a Liquid Music Server.
- **Audio File Information**—Displays the file name, audio type, sample rate, sample size, and file size about the selected file.

• <b>File List</b> —Lists files you opened in the Liquifier Pro during the current session. A maximum of four files are shown.	1
	2
• <b>Exit</b> —Closes the Liquifier Pro window and ends the current session.	3
	4
<b>Edit Menu</b>	5
• <b>Undo</b> —Reverses the last action.	6
	7
• <b>Redo</b> —Restores the last action.	8
• <b>Select All</b> —Selects the entire audio file.	9
• <b>Copy</b> —Copies the selected audio or text to the Clipboard.	10
• <b>Cut</b> —Cuts the selected audio or text to the Clipboard.	11
• <b>Paste</b> —Pastes the selected audio or text from the Clipboard to the current cursor position.	12
• <b>Delete</b> —Deletes the current selection	13
• <b>Crop</b> —Deletes all audio outside the current selection.	14
• <b>Tick Marks&gt;Add</b> —Adds a tick mark at the left cursor position, the right cursor position, both the left and right cursor positions, or the current play cursor position.	15
	16
• <b>Tick Marks&gt;Remove</b> —Deletes the tick mark at the left cursor position, the right cursor position, both the left and right cursor position, or the current play cursor position. Also, deletes all tick marks in the currently selected audio, or only those tick marks that fall between the left and right cursor positions.	17
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	21
• <b>Tick Marks&gt;Next Left</b> —Moves the left cursor to the next tick mark.	22
	23
• <b>Tick Marks&gt;Previous Left</b> —Moves the left cursor to the previous tick mark.	24
	25

- **Tick Marks>Next Right**—Moves the right cursor to the next tick mark.
- **Tick Marks>Previous Right**—Moves the right cursor to the previous tick mark.

### **Markers Menu**

- **Clip Mark In**—Sets the beginning of the clip within the audio.
- **Clip Mark Out**—Sets the end of the clip within the audio.
- **Song Mark In**—Sets the beginning of the song within the audio.
- **Song Mark Out**—Sets the end of the song within the audio.
- **Select Clip**—Moves the play selection to the clip markers.
- **Select Song**—Moves the play selection to the song markers
- **Clear All Marks**—Resets all mark-in and mark-out positions.
- **Clear Clip Marks**—Resets the clip mark-in and mark-out positions to the song mark-in and mark-out positions.
- **Clear Song Marks**—Resets the song mark-in and mark-out positions to the start and end of the audio.
- **Fade In**—Attaches a non-destructive fade-in to the selected clip or song region.
- **Fade Out**—Attaches a non-destructive fade-out to the selected clip or song region.
- **Clear Fade In**—Removes a fade-in from the selected clip or song region.

• <b>Clear Fade Out</b> —Removes a fade-out from the selected clip or song region.	1
	2
• <b>Set Fade Lengths</b> —Sets the fade parameters.	3
	4
<b>View Menu</b>	4
• <b>Zoom In</b> —Zooms in on the selected audio.	5
• <b>Zoom Out</b> —Zooms out on the selected audio.	6
• <b>Media Pane</b> —Opens the Media pane.	7
• <b>Record Pane</b> —Opens the Record pane.	8
• <b>Edit Pane</b> —Opens the Edit pane.	9
• <b>Preview Pane</b> —Opens the Preview pane.	10
• <b>Liquify Pane</b> —Opens the Liquify pane.	11
• <b>Batch Liquify</b> —Opens the Batch Liquify pane.	12
• <b>Publish Pane</b> —Opens the Publish pane.	13
• <b>Transport Bar</b> —Shows or hides the transport controls (Play, Stop, Pause, and Record).	14
	15
• <b>Toolbar</b> —Shows or hides the toolbar.	16
• <b>Status Bar</b> —Shows or hides the status bar.	17
• <b>Task Bar</b> —Shows or hides the task bar.	18
• <b>Options</b> —Displays the Options window for setting user preferences.	19
	20
<b>Transport Menu</b>	21
• <b>Play</b> —Plays the audio from the play cursor.	22
• <b>Stop</b> —Stops audio playback or record and returns the play cursor to the start position.	23
• <b>Pause</b> —Pauses the current audio playback.	24
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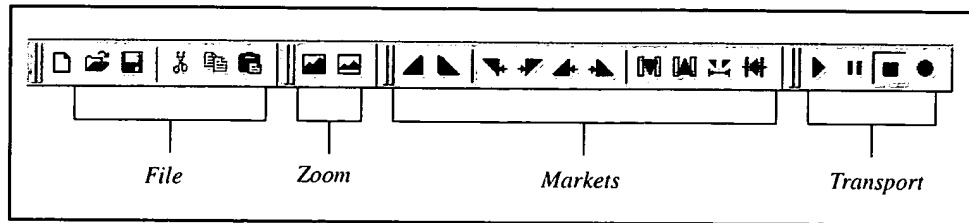


- **Record**—Records incoming audio.
- **Pre-Roll Left**—Plays audio one second before the left cursor.
- **Post-Roll Left**—Plays audio several seconds after the left cursor.
- **Rehearse Left**—Plays several seconds of audio before and after the left cursor.
- **Pre-Roll Right**—Plays audio several seconds before the right cursor.
- **Post-Roll Right**—Plays audio several seconds after the right cursor.
- **Rehearse Right**—Plays several seconds of audio before and after the right cursor.
- **Cut Play**—Plays audio several seconds before and after the current selection.

#### **Preview Menu**

- **14.4/28.8 (low)**—Displays a submenu containing all the previews currently encoded for streaming over a 14.4 Kbps or slow 28.8 Kbps connection.
- **28.8/33.6**—Displays a submenu containing all the previews currently encoded for streaming over a 28.8 Kbps or 33.6 Kbps connection.
- **56/ISDN-1**—Displays a submenu containing all the previews currently encoded for streaming over a 56.6 Kbps or ISDN-1 connection.
- **ISDN-2**—Displays a submenu containing all the previews currently encoded for streaming over an ISDN-2 connection.

• <b>CD-Quality</b> —Displays a submenu containing all the previews currently encoded for high-quality streaming or download.	1
	2
• <b>Select Preview</b> —Snaps the cursors to the current preview.	3
	4
• <b>Load User Presets</b> —Loads a previously saved user preset from a file.	5
	6
• <b>Save User Presets</b> —Saves the current user preset to a file.	7
<b>Help menu</b>	8
• <b>Help Topics</b> —Opens online help for using Liquifier Pro.	9
	10
• <b>Liquid Audio on the Web</b> —Links to the Liquid Audio Web site for access to product information, Frequently Asked Questions (FAQs), and online support.	11
	12
• <b>About</b> —Displays version and registration information for Liquifier Pro.	13
.....	14
<b>Toolbars</b>	15
The Liquifier Pro window provides four floating toolbars:	16
• <b>File bar</b> —Contains buttons for managing files.	17
	18
• <b>Zoom bar</b> —Supplies commands for zooming in or zooming out on an audio selection.	19
	20
• <b>Markers bar</b> —Furnishes buttons for marking clip and song fades.	21
	22
• <b>Transport bar</b> —Provides buttons for recording audio or previewing a track.	23
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*Liquifier Pro Window—Toolbars*

This section describes the buttons on each toolbar. Procedures for using the buttons are described in subsequent chapters of this manual.

For information on floating or docking the toolbars in the Liquifier Pro window or on your desktop, go to “Positioning the Floating Toolbars” on page 3-14.

### File Toolbar



**New**—Creates a new workspace file.



**Open**—Opens an audio, Liquid Master, or workspace file.



**Save**—Saves the current file.












**Cut**—Cuts the selected object and moves it to the Clipboard.



**Copy**—Copies the selected object to the Clipboard.



**Paste**—Pastes the contents of the Clipboard at the current cursor location.

<b>Zoom Toolbar</b>	1
 <b>Zoom In</b> —Zooms in on the selected audio image for a close-up view. (Edit or Preview pane)	2
 <b>Zoom Out</b> —Zooms out on the selected audio image for a wider view. (Edit or Preview pane)	3
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<b>Markers Toolbar</b>	6
 <b>Fade In</b> —Attaches a non-destructive fade-in at the start of a clip or song. (Edit pane)	7
 <b>Fade Out</b> —Attaches a non-destructive fade-out to the end of a clip or song. (Edit pane)	8
 <b>Clip Mark In</b> —Sets the beginning of a clip (in-point) at the left edge of the audio selection. (Edit pane)	9
 <b>Clip Mark Out</b> —Sets the end of a clip (out-point) at the right edge of the audio selection. (Edit pane)	10
 <b>Song Mark In</b> —Sets the beginning of a song (in-point) at the left edge of the audio selection. (Edit pane)	11
 <b>Song Mark Out</b> —Sets the end of a song (out-point) at the right edge of the audio selection. (Edit pane)	12
 <b>Select Clip</b> —Moves the left and right cursor to the audio mark-in and mark-out points for a clip. (Edit or Preview pane)	13
 <b>Select Song</b> —Moves the left and right cursor to the audio mark in and mark out points for a song. (Edit or Preview pane)	14
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**Auto Clip Out Marker**—Sets the clip mark in-point at the left cursor position and the clip mark out-point a specified number of seconds after the clip mark in-point. The duration of the clip is defined in the Options window. (Edit pane)



**Cursor Snap**—Snaps the cursor to the current preview. (Edit pane)

### Transport Toolbar



**Play**—Plays audio from the play cursor. (Record, Edit, or Preview pane)




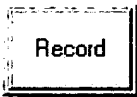
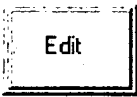
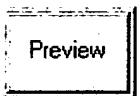
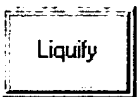
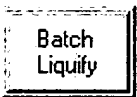
**Pause**—Pauses the current audio playback function. (Record, Edit, or Preview pane)

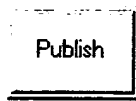


**Stop**—Stops the current audio playback or record function. (Record, Edit, or Preview pane)



**Record**—Records incoming audio. (Record, Edit, or Preview pane)

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.....	2
<b>Task Bar</b>	3
The task bar supplies seven buttons for accessing the workspace panes in the Liquifier.	4
	5
 <b>Media</b>	6
<b>Media</b> —Opens the Media pane which lets you annotate audio files with text and graphics for eventual display in the Liquid Music Player.	7
	8
 <b>Record</b>	9
<b>Record</b> —Opens the Record pane which allows you to record audio through a sound card or import existing audio from a pre-recorded CD.	10
	11
 <b>Edit</b>	12
<b>Edit</b> —Opens the Edit pane which lets you select, edit, and extract song and clip images from an audio source.	13
	14
 <b>Preview</b>	15
<b>Preview</b> —Opens the Preview pane which offers encoding presets for previewing audio at a wide-variety of data rates and connection speeds.	16
	17
 <b>Liquify</b>	18
<b>Liquify</b> —Opens the Liquify pane which lets you encode, encrypt, and watermark a single workspace file for distribution as a Liquid Master file.	19
	20
 <b>Batch Liquify</b>	21
<b>Batch Liquify</b> —Opens the Batch Liquify pane which batch encodes a large number of workspace files for final distribution in the Liquid Master file format.	22
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**Publish**—Furnishes tools to upload Liquid Master files to a Liquid Music Server, test the files to see if the upload was successful, and remotely manage (replace or delete) any files previously stored on the music server.

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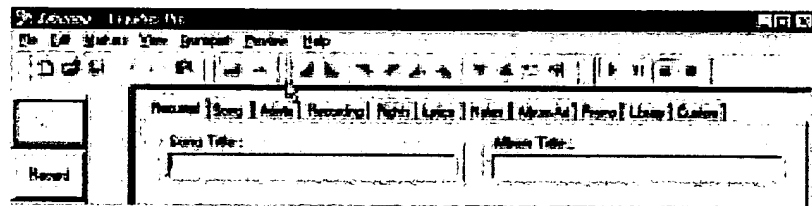
## Positioning the Floating Toolbars

Liquifier Pro provides five toolbars that you can select and reposition in the Liquifier Pro window or on your desktop. These toolbars are the Task bar, File bar, Zoom bar, Markers bar, and Transport bar.

By default, each toolbar is docked to the Liquifier Pro window, but you can move them to a new location to best suit your needs.

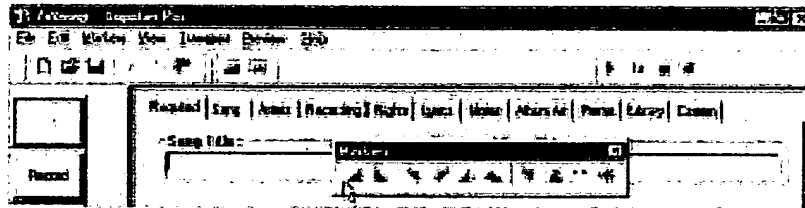
To position a floating toolbar:

- 1 Select an edge on a toolbar.



2 Do the following:

- To move the toolbar to a new location, select the toolbar and drag it where you want it.



- To return the toolbar to its default location, drag it back into place.
- To prevent the toolbar from docking to the current location in the Liquifier Pro window, press **CTRL**.

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## Getting Help

To get help using Liquifier Pro:

1 On the **Help** menu, click **Help Topics**.

The Online Help Topics window opens.

2 Do one of the following:

- Click the **Contents** tab to browse through topics by category.
- Click the **Index** tab to see a list of index entries: either type the word you're looking for or scroll through the list.
- Click the **Find** tab to search for words or phrases that may be contained in a Help topic.



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## Closing Liquifier Pro

► To close the Liquifier Pro:

Do one of the following:

- On the **File** menu, click **Exit**.
- On the upper right-hand corner of the window, click the **Close** button (☒).
- Press **ALT+F4**.

## *Liquifier Pro Files*

This chapter provides an overview of the file types used during the Liquifier Pro production process. It discusses the main file formats used in the Liquifier, as well as describes other types of files you might encounter during the production process.

Finally, this chapter explains how to use the various File commands to manage workspace files—everything from creating a file to saving the media, graphics, and audio images contained within it

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### Overview

The primary purpose of the Liquifier Pro is to compile audio, text and graphic information into Liquid Master files that can be published to a Liquid Music™ Server for distribution over the Internet. Once the Liquid Master files reside on a Liquid Music Server, consumers can stream and download the audio using the Liquid Music™ Player.

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## Standard and Proprietary File Formats

The Liquifier Pro uses several different file formats in the creation of the Liquid Master (LQM) file. These include standard and proprietary file formats that are identified by their extensions.

Table 4–1 provides a summary of the different file types associated with the Liquifier production process.

**Table 4–1: Liquifier Pro—File Types (Sheet 1 of 2)**

Extension	Type	Description
FLT	User Preset	A file that stores any advanced presets that you have created.
GIF	Graphic Interface Format	A standard, compressed graphic file format.
LA1	Liquid Audio Stream	Early version of the Liquid Master file. This is included for backward compatibility. The Liquifier Pro 4.0 will open LA1 files the same way that it opens LQM files, except that the File>Save option is automatically enabled. If you save an LA1 file, it is automatically converted to an LQM file.
LAW	Liquifier Audio Workspace	A file that maintains the state of the Liquifier throughout the LQM creation process. You can save your work in progress using LAW files. LAW files are the default document type of the Liquifier Pro.

**Table 4-1: Liquifier Pro—File Types (Sheet 2 of 2)**

LQM	Liquid Master	The output of the Liquifier Pro. This file contains compressed audio images, text and graphics information. LQM files provide the content for the consumer experience in the Liquid Music™ System.
LQT	Liquid Track	A file type that the Liquid Music Player creates when it downloads music off the Internet to your local hard drive.
LSL	Liquid Song List	The file for storing track lists in the player.
TXT	Text	A formatted text file for media templates.
VFY	Verify	A text file that contains the results of validating a Liquid Master before it is published to a Liquid Music™ Server.
WAV	Wave	A Windows standard audio file format.

## Liquifier Audio Workspace File

The main file type in the Liquifier Pro is the Liquifier Audio Workspace file (.law). The LAW file stores the current state of the application workspace so that intermediate work can be saved and used at a later date. The workspace stores media and audio information, along with preset selections and encoding settings.



*Liquifier Audio Workspace File*

## **LAW File—Content**

An LAW file stores the state of the Liquifier Pro during the production of an LQM file. The following information is stored in an LAW file:

- **Text**—All information in the text fields of the Media pane, such as song title, artist name, copyright information, purchase price, and URLs.
- **Graphics**—Image files, such as album and promotional art, included with the audio file and intended for display in the Liquid Music Player.
- **Audio**—A reference to the source WAV file. The actual WAV file is not stored in a LAW file to preserve disk space. Uncompressed audio in WAV files at CD-Quality occupy 10.5 Mbytes of disk space for every minute of audio.
- **Audio waveform**—A waveform representation of the audio in a referenced WAV file.
- **Clip and Song Markers**—The in-point and out-point in the source audio that defines the clip and song images in the LQM file.
- **Fade times**—Any fades that are associated with clip and song markers.
- **Presets**—The selected presets for encoding audio at each data rate.

- **Encoding settings**—All the audio encoding settings that you select in the Liquify pane. 1
- **Licensing options**—Options that enable users to export and burn CDs, along with any validity period information. 2
- **Output LQM filename**—The path and filename where the resultant LQM file is stored. 3

## **LAW File—Interaction with WAV Files**

When you open an audio file in the Liquifier Pro, the file is generally attached to the current workspace file. When you save the file, the audio edits are saved to the audio file along with the additional information in the workspace file. 4

The LAW file is not an audio file format. The only audio information that is stored in the file is a reference to a WAV file and its associated waveform. 5

If a referenced WAV file is modified outside the Liquifier Pro, the LAW file will detect the changes when it is opened and you will be informed with a warning dialog. This detection is necessary since there are several components of the LAW file that depend on the audio file (such as clip and song markers). 6

When a LAW file is opened, the Liquifier Pro locates the referenced WAV file using the following criteria: 7

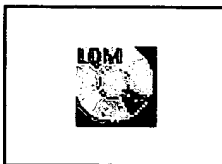
- It looks in the directory specified in the LAW file. 8
- It looks in the same directory where the LAW file resides. 9

1 If the WAV file is not found, the Liquifier Pro provides you  
2 with a dialog that allows you to:

- 3 • Browse for the referenced WAV file.
- 4 • Continue loading the remaining information that doesn't  
5 depend on the WAV file.
- 6 • Cancel the Open operation.

7 .....  
8 **Liquid Master Files**

9 A Liquid Master (LQM) file is the primary output of the  
10 Liquifier Pro. The LQM file format is a proprietary file  
11 format designed for delivering audio over the Internet. It  
12 consolidates text, graphics and audio source material into a  
13 single file that you publish to the Liquid Music™ Server for  
14 streaming or distribution over the Internet. You can identify a  
15 Liquid Master file by the *.lqm* file extension.



19 *Liquid Master File*

20 **Audio in an LQM file**

21 The main component of a Liquid Master file is audio. Audio  
22 is typically stored in a compressed format. The Liquifier Pro  
23 allows you to include up to five compressed audio images in  
24 a single LQM file. Each compressed audio image included in  
25 the LQM file contains the same source audio material  
encoded using a different compression ratio.

Four of the five compressed audio images are designed for streaming the audio over the Internet. The compression ratio for each streaming audio image is optimized for real-time delivery to the consumer over standard low bandwidth Internet connection.

The Liquifier Pro provides you with factory presets optimized for the following standard Internet connection speeds: 14.4 Kbps, 28.8 Kbps, 33.6 Kbps, 56 Kbps, ISDN-1 (64 Kbps) and ISDN-2 (128 Kbps). Using the Liquifier Pro, you choose the connection speeds that the LQM file will support for streaming when it is created.

The fifth compressed audio image is designed for distribution of high-quality audio. You create this audio image using the CD-Quality presets in the Liquifier Pro. This compressed audio image is designed to be sonically transparent when compared to the original source audio material.

The file format also supports inclusion of the uncompressed source audio material for special post-production purposes. Including the uncompressed source audio material is not recommended as a standard practice, since it significantly increases the size of the LQM file.

### **Encrypted Audio in an LQM file**

Audio in an LQM file can be encrypted using RSA encryption technology. The Liquifier Pro allows you to select one audio image for sale. The Liquifier Pro automatically encrypts that audio image as it is generated. The encrypted audio image is not available for streaming because it is designed for secure distribution.



1 When an LQM file containing an encrypted audio image is  
2 published to a Liquid MusicServer, the encrypted audio  
3 image is bound to that server. Private information from the  
4 server is required to decrypt and distribute the encrypted  
5 audio image. This protects the LQM files from unauthorized  
6 use on another Liquid Music Server.

7 If you use the Publish capability of the Liquifier Pro, the  
8 encrypted audio image is bound transparently as the LQM  
9 file is uploaded to the Liquid Music server.

### 10 **LQM files and the Liquid Music Player**

11 LQM files are not compatible with the Liquid Music Player.  
12 The player can open the text and graphic information in an  
13 LQM file, however it cannot open the audio content. This  
14 restriction prevents distribution of encoded content through  
15 uncontrolled channels.

16 To play audio contained in an LQM file, the player must  
17 obtain it from a Liquid Music Server. When you use the  
18 Audition feature in the Publish pane of the Liquifier Pro to  
19 review published files, you are connecting to the server and  
20 streaming the published file. The audio that is provided to the  
21 player is determined by the Internet connection speed in the  
22 player preferences.

23 .....

### 24 **Working with Liquid Masters**

25 The Liquifier Pro provides some basic functionality for  
managing your Liquid Masters. You can open LQM files in  
the Liquifier Pro and edit the text and graphics images to  
correct any mistakes, display a summary of the file contents  
and validate the LQM file to ensure compatibility with  
Liquid Music™ Servers.

This section provides basic procedures for managing Liquid Masters. Many of these procedures appear in subsequent sections of this manual. They are presented together here in this section for your convenience.

## Opening Liquid Masters from the Windows Desktop

The LQM file extension is registered to the Liquifier Pro. This means that you can double-click on an LQM file in Windows Explorer to launch the Liquifier Pro and open the LQM file.

To open a Liquid Master from the Windows desktop:

- 1 Double-click the **My Computer** icon.
- 2 Double-click the drive that contains the file.
- 3 Double-click the file you want to open.

The Select Audio Stream to Decode window opens with a list of audio images.



4 Do one of the following:

- To open the LQM file and the audio, double-click the audio image you want.

Selecting this option causes the text and graphic content in the LQM file to display in the Media pane and the audio image to display in the Preview pane. The Liquifier Pro allows you to play back the displayed audio so that you can replicate the consumer experience at the selected data rate.

Note: You cannot edit the audio in an LQM file.

- To open the LQM file without the audio, select **Don't Open Audio**.

The text and graphic content in the LQM file is displays in the Media pane.

The selected file opens in Liquifier Pro.


### **Opening Liquid Masters for Editing**

If you find that your LQM files have mistakes in the text and graphics content, you can open the files in the Liquifier Pro, change the erroneous fields and save the changes.

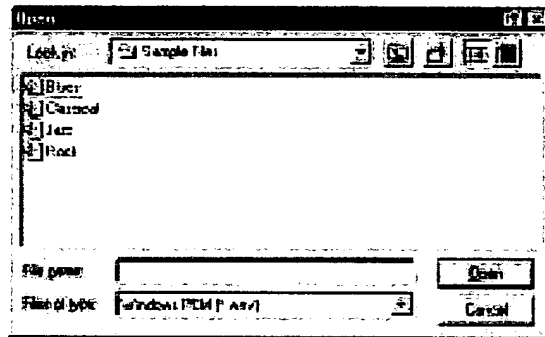
When you open an LQM file for editing, you are presented with an option to open one of the audio images for previewing purposes. If you open the LQM file along with the audio image, you can view the text and graphics associated with the file in the Media pane. Moreover, you can play back the audio in the Preview pane. You will not; however, be able to edit the encrypted audio image in the LQM file.

If you choose to open the LQM file without the audio image, you can only view and edit the associated text and graphics in the Media pane. You will not be able to play back the audio in the Preview pane.

To open a Liquid Master for editing:

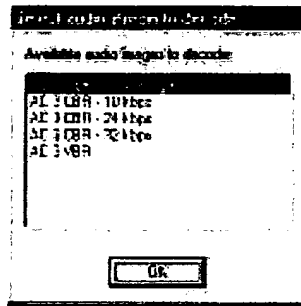
- 1 Open **Liquifier Pro**.
- 2 On the **File** menu, click **Open**.
- 3 Do one of the following:
  - On the **File** menu, click **Open**.
  - On the **File** toolbar, click 

The Open window appears.



- 4 In the **Files of Type** list, select **Liquid Master (.lqm)**.
- 5 In the **Look In** box, click the drive, folder, or Internet location that contains the file.
- 6 In the folder list, double-click folders until you open the folder that contains the file you want.
- 7 Double-click the file you want to open.

The Select Audio Stream to Decode window opens with a list of audio images.



8 Do one of the following:

- To open the LQM file and the audio, double-click the image you want to open.

Selecting this option causes the text and graphic content in the LQM file to display in the Media pane and the audio image to display in the Preview pane.

The Liquifier Pro allows you to play back the displayed audio so that you can replicate the consumer experience at the selected data rate.

Note: You cannot edit the audio in an LQM file.

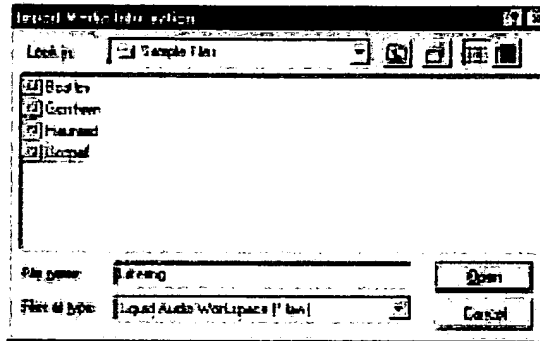
- To open the LQM file without the audio, select **Don't Open Audio**.

The text and graphic content in the LQM file is displays in the Media pane.

The selected file opens in Liquifier Pro.

<b>Editing Liquid Masters</b>	1
To change the text or graphics in an LQM file:	2
1 Open <b>Liquifier Pro</b> .	3
2 Open the LQM file for editing.	4
3 Make the necessary adjustments to the text or graphic information.	5
	6
Go to Chapter 5, <i>Creating Media Files with Text and Graphics</i> for complete information.	7
	8
<b>Loading Text and Graphics into Liquid Masters</b>	9
The Liquifier Pro allows you to import text and graphics from an LQM file to use as a template for other files. This is useful if you need to create LQM files with similar media as one you have already created.	10
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For complete information on creating templates, go to Chapter 5, <i>Creating Media Files with Text and Graphics</i> .	13
	14
To load text and graphics into a Liquid Master:	15
1 Open <b>Liquifier Pro</b> .	16
2 Do one of the following:	17
• On the <b>View</b> menu, click <b>Media Pane</b> .	18
• On the <b>Liquifier Pro</b> taskbar, click <b>Media</b> .	19
3 Do one of the following:	20
• On the <b>File</b> menu, click <b>Import Media</b> .	21
• On the Context menu, click <b>Import Media</b> .	22
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The Import Media window opens.



- 4 In the **Files of Type** list, select **Liquid Master (.lqm)**.
- 5 In the **Look In** box, click the drive, folder, or Internet location that contains the file.
- 6 In the folder list, double-click folders until you open the folder that contains the file you want.
- 7 Double-click the LQM file that contains the media information you want to load.

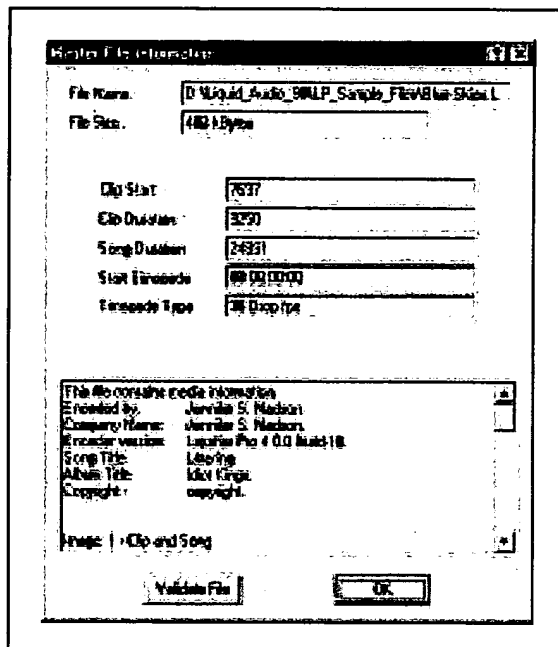
Liquifier Pro displays the text and graphics information imported from the LQM file in the Media pane.

### Viewing the Contents of Liquid Masters

The Liquifier Pro provides the capability to view a summary of the LQM file contents without opening it for editing.

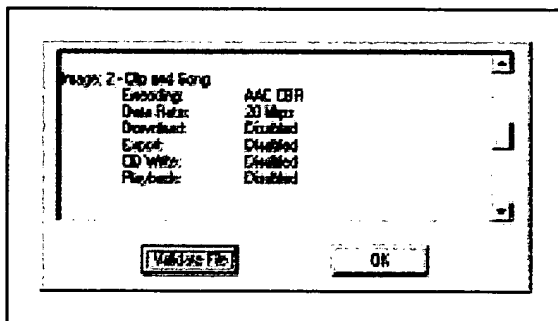
### Master File Information Window—Contents

File summary information is presented in the Master File Information window. This window is accessible from the File Summary command in the File menu, or from the context menu in the Publish pane.



*Liquifier Pro—Master File Information Window*

You can drag the scroll box to move through all information displayed in the window.



*Liquifier Pro—Scroll Box in Master File Information Window*



1 The Master File Summary window displays the following  
2 information:

- 3 • Song title
- 4 • Album Title
- 5 • Copyright
- 6 • Liquifier version used to encode the file
- 7 • User name and Company that encoded the LQM file
- 8 • Each audio image that is contained in the LQM file

9 For each audio image that is contained in the file, the  
10 following summary information is provided:

- 11 • Whether the audio is only a clip or a clip and song.
- 12 • The type of codec used to encode the audio. Five options  
13 are available:
  - 14 • **AC-3 CBR**—Dolby Digital compressed encoding for  
15 streaming.
  - 16 • **AC-3 VBR**—Dolby Digital compressed encoding  
17 for download.
  - 18 • **AAC CBR**—MPEG-2 AAC compressed encoding  
19 for streaming.
  - 20 • **AAC VBR**—MPEG-2 AAC compressed encoding  
21 for download.
  - 22 • **PCM**—linear uncompressed audio for post-  
23 production.
- 24 • **Data Rate**—Shows the data rate of the compressed audio,  
25 given as kilobits per second (Kbps). This number specifies  
the amount of data used to represent one second of audio.
- **Download**—Indicates whether download is disabled,  
enabled or secure (the audio is encrypted).

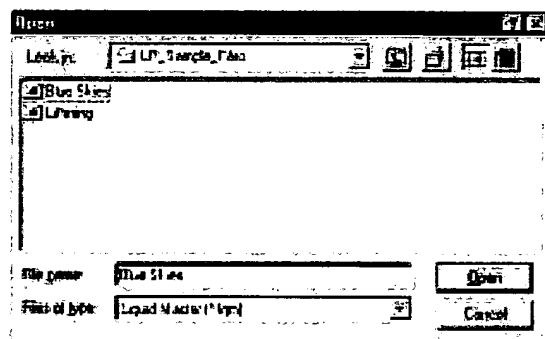
- **Export**—Indicates whether the audio image can be exported to standard linear formats.
- **CD Write**—Indicates whether the audio image can be burned to a CD using a CD-R.
- **Playback**—Indicates whether the audio image can be played back when downloaded.

## Viewing File Contents from the Liquifier Pro Window

To view the contents of a Liquid Master from the Liquifier Pro window:

- 1 Open the **Liquify** pane.
- 2 On the **File** menu, click **Liquid Master**, and then select **File Summary**.

The Open window appears.



- 3 In the **Files of Type** list, select **Liquid Master (\*.lqm)**.
- 4 In the **Look In** box, click the drive, folder, or Internet location that contains the file.
- 5 In the folder list, double-click folders until you open the folder that contains the file you want.

- 6 Double-click the file you want to validate.  
The Master File Information window opens.
- 7 Review the information in the window.
- 8 Drag the scroll box to move through the information.
- 9 Do one of the following:
  - To validate the Liquid Master file, go to “Validating Liquid Masters” on page 4-19.
  - To close the Master File Information window, click **OK**.

### Viewing File Contents from the Publish Pane

To view the contents of a Liquid Master from the Publish pane:

- 1 Open **Liquifier Pro**.
- 2 Do one of the following:
  - On the **View** menu, click **Publish Pane**.
  - On the **Liquifier Pro** taskbar, click **Publish**.
- 3 In the **Local Server** window, select the Liquid Master file (.lqm) you want to view.  
The file is highlighted.
- 4 Position the pointer on the file, click the right mouse button, and select **File Summary**.  
The Master File Information window opens.
- 5 Review the information in the window.
- 6 Drag the scroll box to move through the information.

- 7 Do one of the following:
  - To validate the Liquid Master file, go to “Validating Liquid Masters” on page 4-19.
  - To close the Master File Information window, click **OK**.

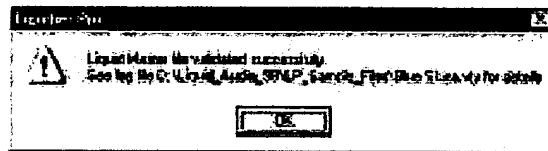
## Validating Liquid Masters

Every LQM file that is published to a Liquid Music™ Server is validated before it is uploaded, to ensure that it is compatible with the server. If the file is invalid, it is not published to the server. You are notified through a warning dialog that the file is invalid and encouraged to check it using the validate feature of the Liquifier Pro. You can access the validate feature from the Master File Summary dialog.

To validate a Liquid Master:

- 1 Open the **Master File Information** window.
- 2 Click **Validate File**.

A confirmation window opens.



- 3 Do the following:
  - A) Review the information in the window.
  - B) When you are done viewing the information, click **OK**.

The confirmation window closes.
- 3 Click **OK**.

The Master File Information window closes.

A report file is created in the same directory as the LQM file, with the same name as the LQM file and a .vfy extension. For example, if you are validating a file called Track1.LQM that resides in C:\temp directory, the validate function will create a file called Track1.VFY in the C:\temp directory. The report file is a text file that can be opened using any standard text editor.

### Summary of LAW File Management Commands

Table 4–2 summarizes the commands for managing a Liquifier Audio Workspace file. Complete procedures for creating, opening, and saving different files types are explained in subsequent chapters of this guide.

**Table 4–2: Liquifier Pro—LAW File Management Commands**

To:	Select this menu command:
Create an LAW file	File>New
Open an LAW file	File>Open
Close an LAW file	File>Close
Save media (text and graphics) and audio	File>Save
Import media (text and graphics) from an LAW file	File>Import Media

## *Creating Media Files with Text and Graphics*

This chapter explains how to use the Media pane in Liquifier Pro to create a media file that will be included in the Liquid Master file.

Prior to publishing a clip or song on the Internet, you need to provide the end-user with additional information about your music. This information, which includes the song title, album title, artist name, and copyright, appears in the Liquid Music Player when a clip or song is previewed or purchased.

Liquifier Pro requires that you include such information, along with an audio sound file, before publishing a Liquid Master. In addition to the required information, you have the option to include other material with your music, such as album art, promotional material, song lyrics, credits, or notes, before encoding the clip or song.

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## A Tour of the Media Pane

The Media pane lets you create a media file with text- and graphics-based information that will be encoded in the final Liquid Master file.

## Media Pane—Functions

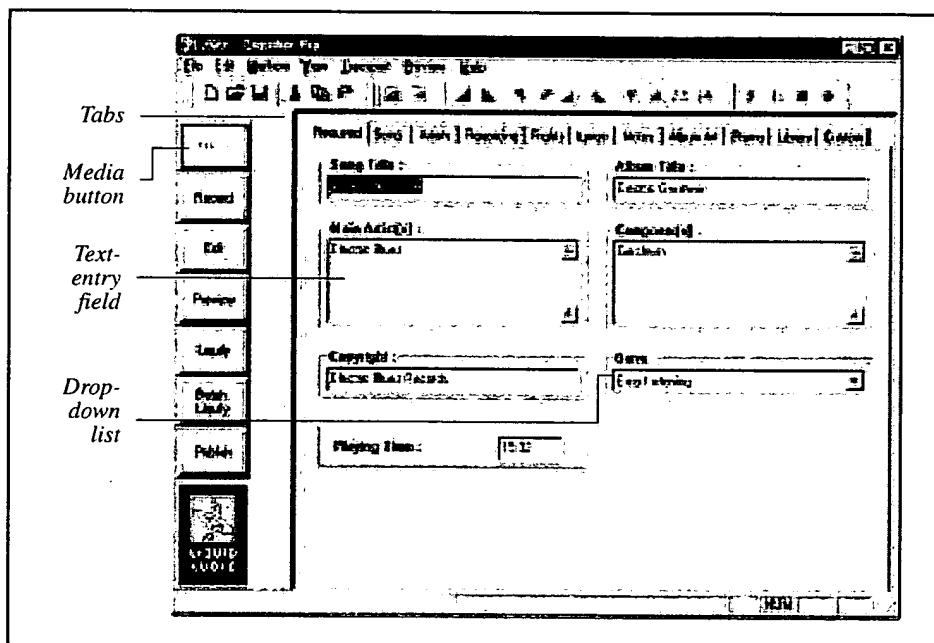
The Media pane enables you perform the following tasks:

- Add media information required by Liquifier Pro to generate a Liquid Master file.
- Add optional media information, such as lyrics, notes, and credits, to display with a song in the Liquid Music Player.
- Manage performance rights agency, mechanical rights agency, and copyright information about a song.
- Import album art, photographs, or other promotional material and display them in the Liquid Music Player.
- Include text-based information, such as keywords, categories, or custom fields, with an audio sound file to facilitate archiving activities or database searches.
- Create templates with media information and apply them to new audio material you want to liquify.
- Change text and graphic information in existing Liquid Masters without the need to encode the audio sound file again.

## Media Pane—Components

The Media pane contains the following components:

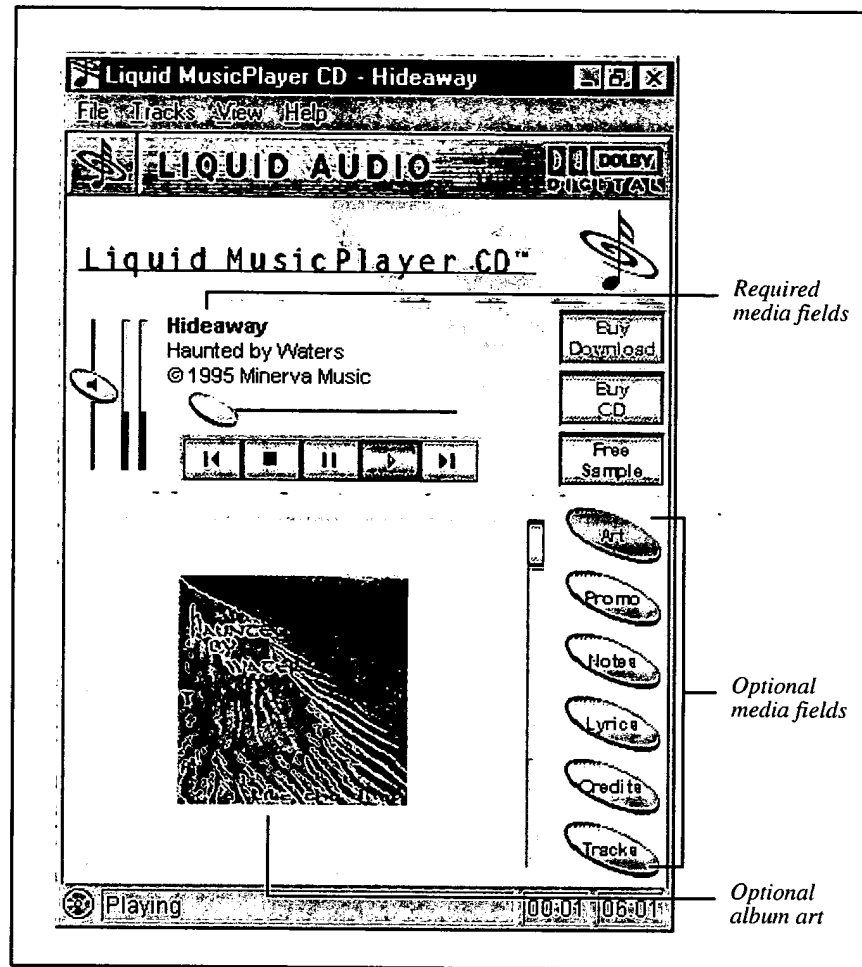
- **Media taskbar button**—Displays the Media pane.
- **Tabs**—Displays the associated media pages.
- **Text-entry fields**—Supplies text boxes for entering media information.
- **Media menu**—Provides commands for managing media files. The commands are available from the Liquifier Pro menu bar or the Context menu.
- **Edit menu**—Contains commands for editing text in fields. The Edit commands are available from the Liquifier Pro menu bar or the Context menu.



Media Pane—Components



Media pane fields that have a bold title also appear in the Liquid Music Player. Those without a bold title are stored in the media file but are not displayed in the MusicPlayer.



*Liquid Music Player—Liquid Track*

Media Pane—Tabs	1
The Media pane is divided into eleven tabbed pages. These pages let you add the following types of information to a media file:	2
• <b>Song</b> —Contains media fields specific to a particular song including song title, composer, and song ID. Many of the fields are required for streaming, downloading, and selling music over the Internet.	3
• <b>Artists</b> —Contains media fields related to the various artists who performed on the recorded piece.	4
• <b>Recording</b> —Contains media fields for logging the recording specifications (such as recording format and playing time) and credits.	5
• <b>Rights</b> —Contains media fields for logging artist rights, agency rights, and information necessary for royalty tracking.	6
• <b>Lyrics</b> —Contains a text box for entering song lyrics.	7
• <b>Notes</b> —Adds information about a song, such as liner notes.	8
• <b>Album Art</b> —Contains media fields for adding album art and designer credits.	9
• <b>Promo</b> —Imports promotional art and adds hypertext links to the World Wide Web. The promotional art displays in the Liquid Music Player during the first 5 seconds of streaming and playback.	10
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- **Library**—Provides fields for users with a special requirement for cataloging sound effects libraries. By default, this tab does not show in the Media pane. A user option is provided to determine whether the Library tab is displayed.
- **Custom**—Provides fields used for application-specific information that needs to be carried with the Liquid Master file, but not displayed to the end user. By default, this tab does not show in the Media pane. A user option is provided to determine whether the Custom tab is displayed.

## Media Pane—Media Commands

Three commands are available for managing media files in Liquifier Pro. These commands are available from the File menu in the menu bar or the Context menu in the Media pane.

### Import Media

The Import Media command lets you import media information from an existing Liquid Master file (.lqm), a Liquifier Audio Workspace file (.law), or a formatted text file (.txt) into the Media pane.

All the existing media information is replaced by the information stored in the selected file. This command provides a convenient method to import information that can be used by more than one song. This operation is irreversible.

<b>Export Media</b>	1
The Export Media command creates a formatted text file (.txt) from the media information in the Media pane and exports it to a pathname of your choice. The information is formatted so it can easily be included in a database for search operations.	2 3 4 5
Note: Empty text fields are not exported to a formatted text file.	6 7
<b>Clear Media Fields</b>	8
The Clear Media Fields command resets all the media fields to their default state. In text edit fields, it clears out any text; in drop-down lists, it resets the first item in the list; and in graphic displays, it clears any images. This command is irreversible.	9 10 11 12 13
.....	14
<b>Media Pane—Edit Commands</b>	15
The Edit menu provides standard Windows commands for modifying text in text-entry fields. These commands are:	16 17
• <b>Undo</b> —Reverses the last action.	18
• <b>Redo</b> —Restores the last action.	19
• <b>Copy</b> —Copies the selected text to the Clipboard.	20
• <b>Cut</b> —Cuts the selected text to the Clipboard.	21
• <b>Paste</b> —Pastes the selected text from the Clipboard to the current cursor position.	22
• <b>Delete</b> —Deletes the current selection	23
The commands are accessible from the Liquifier Pro menu bar or the Context menu in the Media pane.	24 25

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## Media Pane—Shortcut Keys

The shortcut keys (Table 5–1) afford an additional method for editing text in text-entry fields of the Media pane.

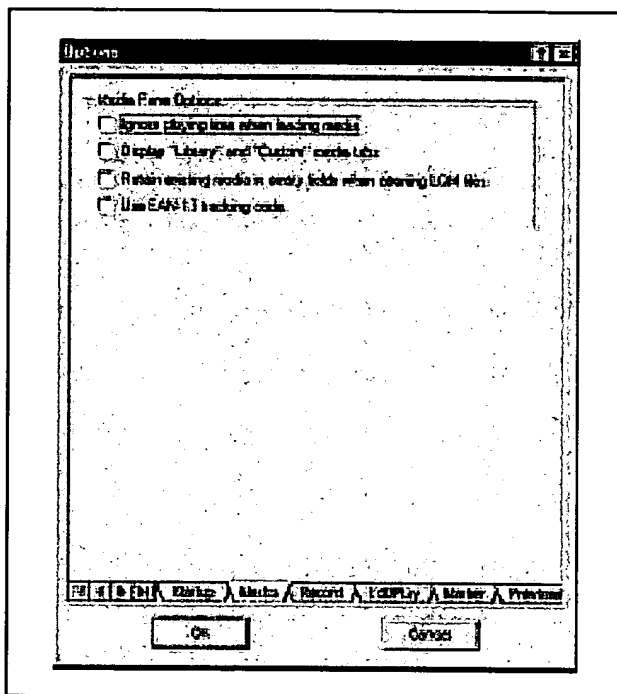
**Table 5–1: Media Pane—Shortcut Keys**

To:	Do this:
Copy the text selection to the Clipboard	Press CTRL+C
Move the text selection to the Clipboard	Press CTRL+X
Paste the text selection from the Clipboard to the current cursor position	Press CTRL+V
Delete the text selection	Press DEL
Reverses the last action	Press CTRL+Z
Restores the last action	Press CTRL+Y

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## Media Pane—User Options

Liquifier Pro provides a number of user options you can set to facilitate your work process. These options, which are set on the Media tab of the Options window, are described in *Chapter 16, Customizing Liquifier Pro*.



*Options Window—Media Tab*

1 Refer to Table 5–2 for a list of options that apply to the  
2 Media pane.

3 **Table 5–2: Media Pane—User Options**


To:	Go to:
Load a default media file on application startup	“Customizing Media Options” on page 16-14
To prevent the playing time in a Liquid Master file (.lqm) from automatically loading in the Playing Time text field	“Customizing Media Options” on page 16-14
To display the Library and Custom tabs when the Media Pane is opened,	“Customizing Media Options” on page 16-14
To replace empty fields in a Liquid Master file with the current media information displayed in the Media pane	“Customizing Media Options” on page 16-14

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## Media Pane—Navigation Functions

You can use tabs and shortcut keys (Table 5–3) to easily move the cursor between tabbed pages and media fields in the Media pane.

**Table 5–3: Media Pane—Navigation Functions**

To:	Do this:
Display a tabbed page	Click the tab,  , you want
Select the next tabbed page in the Media pane	Press CTRL+TAB
Select the previous tabbed page in the Media pane	Press SHIFT+CTL+TAB
Move the cursor to the next text box on a page  Note: If the cursor is in the last text box, it moves to the first text box.	Press TAB
Move the cursor to the previous text box on a page  Note: If the cursor is in the first text box, it moves to the last text box.	Press SHIFT+TAB



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## Opening the Media Pane

To open the Media pane:

- 1 Start **Liquifier Pro**.
- 2 Do one of the following:
  - On the **View** menu, click **Media Pane**.
  - On the Liquifier Pro taskbar, click **Media**.

The Media pane opens on your desktop.

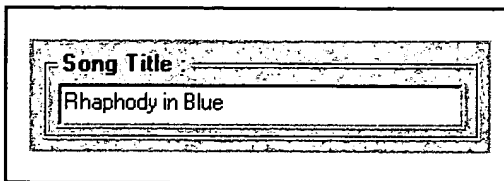
.....

## Entering Information in the Media Pane

Each tabbed page in the Media pane contains elements for entering specific information about a song. To enter information into the Media pane, you will need to use a text box, a drop-down list box, or a command button.

### Text Box

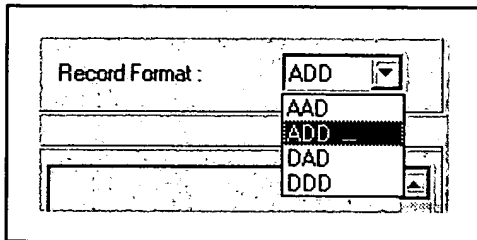
A rectangular box in which you can type text. If the box already contains text, you can select that default text or delete it and type new text. Standard cut, copy, paste, delete, undo, and redo functions are supported in text boxes.



*Media Pane—Text Box*

## Drop-Down List Box

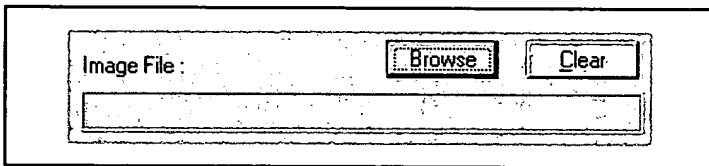
A text box with a list attached. Clicking the arrow opens the list. Selecting an item in the list inserts it in the attached text box.



*Media Pane—Drop-Down List Box*

## Command Button

A rectangular button that initiates an action. The command buttons can be found in the Album Art and Promo tabs.



*Media Pane—Command Button*

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## Using the Context Menus

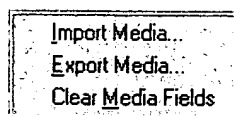
The Media pane provides two pop-up context menus for accessing either media or edit commands.

### Context Menu—Media Commands

To use the Context menu for media commands:

- 1 Open the **Media** pane.
- 2 Position the pointer on any tab in the **Media** pane (but outside a text-entry field).
- 3 Click the right mouse button.

A list of commands opens in the Media pane.



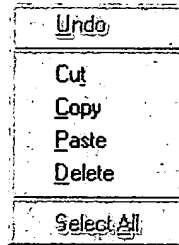
- 4 Select the command you want from the menu.

### Context Menu—Edit Commands

To use the Context menu for edit commands:

- 1 Open the **Media** pane.
- 2 Position the pointer on any text-entry field in the **Media** pane.
- 3 Click the right mouse button.

A list of commands opens in the Media pane.



4 Select the command you want from the menu.

## Modifying Information in the Media Pane

Two methods are available for modifying information in the Media pane:

- **Edit**—Copy, cut, paste, or delete media information in individual text boxes in tabbed pages of the Media pane.
- **Clear**—Reset all the media fields to their default state. In text edit fields, it clears out any text; in drop-down lists, it resets the first item in the list; and in graphic displays, it clears any images. This command is irreversible.

## Editing Information in the Media Pane

You can edit any information appearing in the Media Pane using the standard editing functions available through the Edit menu, Context menu, or shortcut keys.

Make any necessary edits to the media information. This can include adding fields that were omitted, changing the graphic images, and correcting any errors.

## Clearing Information in the Media Pane

The Clear Media command clears text-based media, resets drop-down lists to their default settings, and deletes any graphics appearing in the Media pane.

To clear a media file:

► Do one of the following:

- On the **File** menu, click **Clear Media**.
- On the **Context** menu, click **Clear Media**.

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## Displaying the Library and Custom Tabs

The Media pane includes two tabbed pages, the Library and Custom tabs, that can be displayed or hidden from view. By default, these pages do not appear in the Media pane when you first open the window.

To display the Library and Custom tabs when opening the Media pane, you'll need to set a user option in the Media tab of the Options dialog box. Go to the "Customizing Media Options" on page 16-14 in *Chapter 16, Customizing Liquifier Pro*, for complete information.

.....	1
Creating Media Templates	2
A media template provides a convenient method to save and reapply frequently-used media information to more than one audio sound file. This information can include the main artist name, copyright information, and agency performance rights, or any material that tends not to change from song to song.	3
To create a media template:	4
1 Open the <b>Media</b> pane.	5
2 Enter media information and graphics files, as necessary, in the Required, Song, Artists, Recording, Rights, Lyrics, Notes, Album Art, and Promo tabs.	6
3 Do one of the following:	7
• To save the media information as a text-based file for archiving or database searches, use the <b>Export Media</b> command in the <b>File</b> menu. Go to the “Saving Media Information in a Text File” on page 5-24 for complete information.	8
• To save the file as a Liquifier Audio Workspace file prior to generating a Liquid Master file, use the <b>Save</b> command in the <b>File</b> menu. Go to the “Saving Media Information in a Liquifier Audio Workspace File” on page 5-25 for complete information.	9
4 (Optional) To prevent the media template from inadvertent edits, do the following:	10
A) From the Windows desktop, click <b>Start</b> and then select <b>Find&gt;File or Folders</b> .	11
The Find dialog box opens.	12
B) In the <b>Named</b> field, type the name of the media	13

template.

- C) In the **Look In** field, select the drive that contains the template.
- D) Click **Find Now**.
- E) Select the template in the **Find** window.
- F) Press the right mouse button and click **Properties**.  
The Properties dialog box opens.
- G) Under Attributes, select the **Read-Only** check box.
- H) Click **OK**.

The Properties dialog box closes.

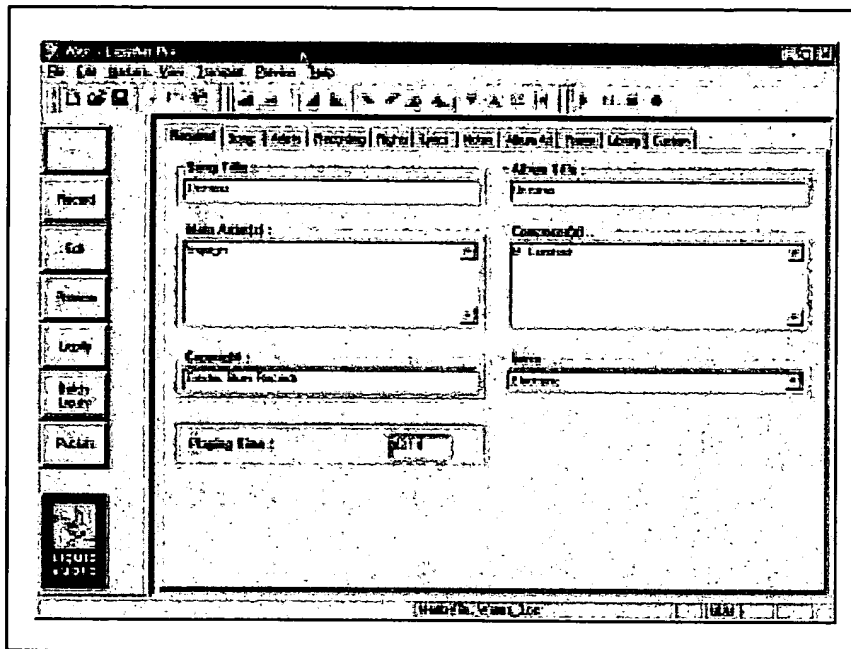
- I) Close the **Find** dialog box.

When you are ready to use the template, you can open it in the Media pane and use it as is, or edit the information to customize it for your current project.

## Loading Text and Graphics into Liquifier Audio Workspace or Liquid Master Files

This section explains how to import text and graphics saved in a media file into an LAW or LQM file. The Import Media command imports media from a formatted text file, a Liquifier Audio Workspace file, or a Liquid Master file into the Media pane.

A media file contains text- and graphics-based information that can be opened, edited, and saved as a text file (.txt) or a Liquifier Audio Workspace file (.law). The file type is indicated in the status bar of the Media pane.



*Media Pane—Example Media File*

The Import Media command loads only the media information (text and graphics) from a selected file into the active document. The active document is not changed to the selected file.

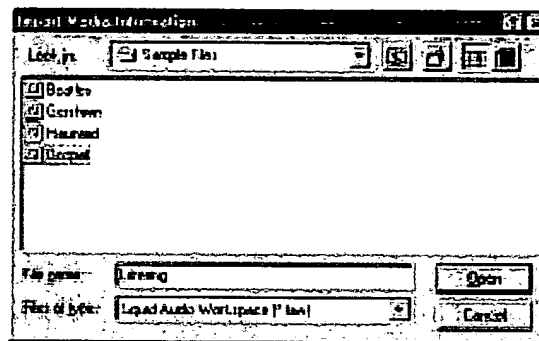
Note: The maximum image size that you can import is 32K. If you attempt to import a graphic that is larger than 32K, Liquifier Pro displays a dialog box with an error message in the Media pane.



To load text and graphics into a file:

- 1 Open the **Media** pane.
- 2 Do one of the following:
  - On the **File** menu, click **Import Media**.
  - On the Context menu, click **Import Media**.

The Import Media window opens.



- 3 In the **Files of Type** list, select the file format you want.
- 4 In the **Look In** box, click the drive, folder, or Internet location that contains the file.
- 5 In the folder list, double-click folders until you open the folder that contains the file you want.
- 6 Double-click the file you want to open.

The Import Media Information window closes and the media information from the file appears in the Media pane.

## **What About the File>Open Command?**

The Open command in the File menu loads all information from the specified file (including audio, text, and graphics) into Liquifier Pro and sets the active document to that file. The active document can be an LAW or a LQM file.

The Load Media command in the Edit menu loads only the media information (text and graphics) from an active document into the current document. The active document, which can be an LAW or LQM file, is not changed.

## **..... Importing Graphics from the Windows Desktop**

You can add graphics to your music, such as album art or promotional material, that is displayed in the Liquid Music Player.

The recommended dimension for the graphic is 200 x 200-pixels, which is approximately 4 x 4-inches. The graphic is reduced in size when displayed in the Liquid Music Player window.

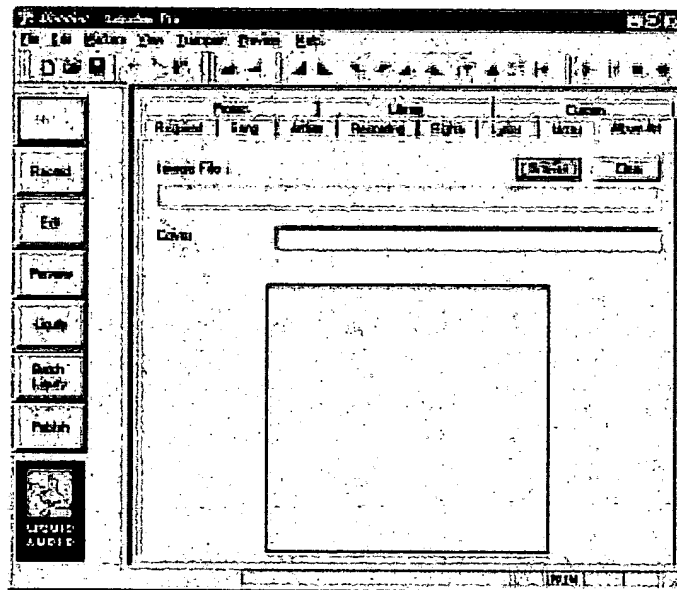
Note: The maximum image size that you can import is 32K. If you attempt to import a graphic that is larger than 32K, Liquifier Pro displays a dialog box with an error message in the Media pane.

To import graphics from the Windows desktop:

- 1 Create the graphics you want to display in the Liquid Music Player using a graphics software application. Save the graphics as a .gif file.

Note: A GIF file is a special graphic format suitable for display in any browser (such as Microsoft Internet Explorer or Netscape Communicator) on the Internet.

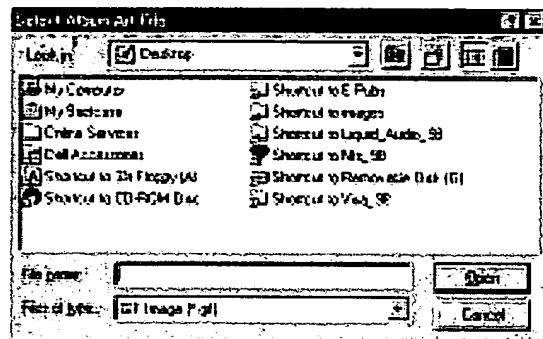
- 2 Start **Liquifier Pro**.
- 3 Open the **Media** pane.
- 4 Do one of the following:
  - Select the **Album Art** tab.
  - Select the **Promo** tab.



Note: The example in this procedure uses the Album Art tab. The procedure is similar for using the Promo tab.

- 5 Click **Browse**.

The Select Album Art File window opens.



- 6 In the **Files of Type** list, select the graphics file (.gif).
- 7 In the **Look In** box, click the drive, folder, or Internet location that contains the file.
- 8 In the folder list, double-click folders until you open the folder that contains the file you want.
- 9 Double-click the file you want to open.

The graphic appears in the tab.

- 10 Do one of the following:

- In the **Cover Designer** box of the Album Art tab, type the name of the artist or photographer.
- In the **Promotional URL** box of the Promo type, type the Internet address. For example,

<http://www.mysong.com>

After you publish the clip or song to the Internet, the graphic will appear in the Liquid Music Player.

## Saving Media Information

This section explains how to save media information entered in the Media pane to different file formats. Depending on the type of file you originally opened in the Media pane, you can save media information in a text file (.txt), a Liquid Workspace file (.law), or a Liquid Master file (lqm).

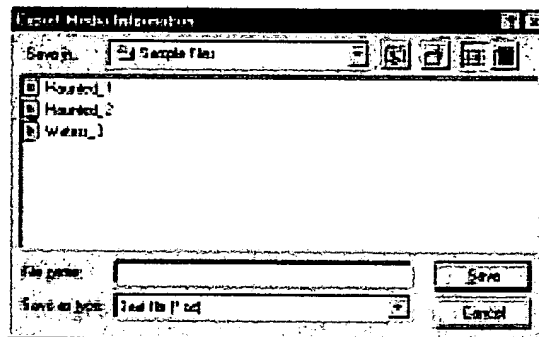
### Saving Media Information in a Text File

The Export Media command saves media information created in the Media pane to a text file (.txt). Media information saved in this file format can be used for library archiving functions or database searches.

To save media information in a TXT file:

- 1 Do one of the following:
  - On the **File** menu, click **Export Media**.
  - On the Context menu, click **Export Media**.

The Export Media window opens.



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## **Saving Media Information in a Liquid Master File**

This procedure explains how to use the Save command to save an LQM file after you have finished modifying it. The changes are saved to the Liquid Master file (.lqm), rather than to a Liquifier Audio Workspace file (.law).

**Important:** By saving the LQM file in its original format, you do not need to encode the audio sound file again.

It is assumed that the file you want to save is open in the Media pane.

To save media information in a LQM file:

- On the **File** menu, select **Save**.

## **Saving a Liquid Master File as a Liquifier Audio Workspace File**

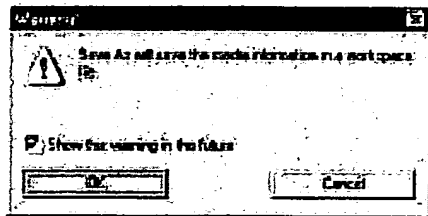
This procedure explains how to use the Save As command to save an LQM file as a Liquifier Audio Workspace file (.law).

**Warning:** This action creates a LAW file with the media information from the LQM file. This action does not overwrite the LQM file unless you explicitly choose to do so by providing the same file name, at which point you have an LAW file with an .lqm extension.

To save an LQM file as an LAW file:

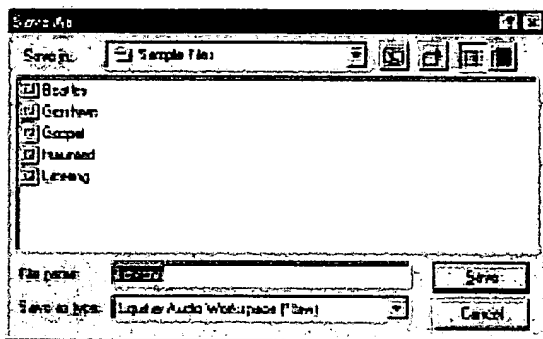
- 1 On the **File** menu, select **Save As**.

A warning window opens.



- 2 Click **OK** to confirm that you have read the warning.

The Save As window opens.



- 3 In the **File Name** box, type a name for the file.
- 4 Click the **Save** button.

The Save As window closes and the file is saved to the pathname you selected.

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## Correcting Errors in Liquid Master Files

If you have created a Liquid Master file (.lqm) that contains errors in the media information, you can correct the errors without re-encoding the audio content. This section explains



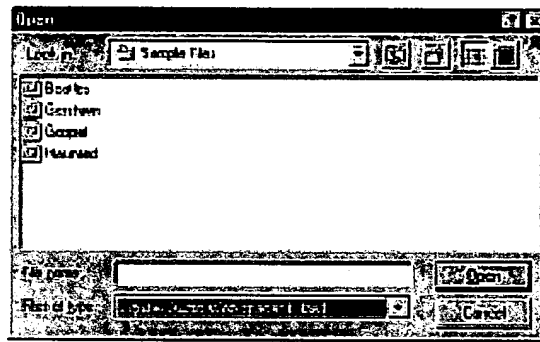
1 how to open, edit, and save Liquid Master files using menu  
2 commands in the Media pane.

### 3 **Opening Liquid Master Files**

4 To open a Liquid Master file:

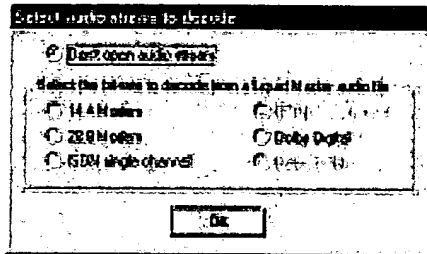
- 5 1 Open the **Media** pane.
- 6 2 On the **File** menu, click **Open**.

7 The Open window appears.



- 15 3 In the **Files of Type** list, select **Liquid Master (\*.lqm)**.
- 16 4 In the **Look In** box, click the drive, folder, or Internet  
17 location that contains the file.
- 18 5 In the folder list, double-click folders until you open the  
19 folder that contains the file you want.  
20 Double-click the file you want to open.

The Select Audio Stream to Decode window opens.



6 Click **Don't Open Audio Stream**.

7 Click **OK**

The Select Audio Stream to Decode window closes and the media information from the file appears in the Media pane. All the media fields will be updated with the information contained in the LQM file.

### Correcting Media Information Errors

You can edit any information appearing in the media template using the standard editing functions available through the Edit menu, Context menu, or shortcut keys.

Make any necessary edits to the media information. This can include adding fields that were omitted, changing the graphic images and correcting any errors.

Refer to the "Media Pane—Edit Commands" on page 5-7 for a description of the standard edit commands and editing techniques.

### Saving Liquid Master Files

This procedure explains how to use the Save command to save an LQM file after you have finished modifying it. The changes are saved to the Liquid Master file.

**Important:** By saving the LQM file in its original format, you do not need to encode the audio sound file again. This action does not affect the audio images in the LQM file.

To save a Liquid Master file:

- ▶ On the **File** menu, select **Save**.

## Closing the Media Pane

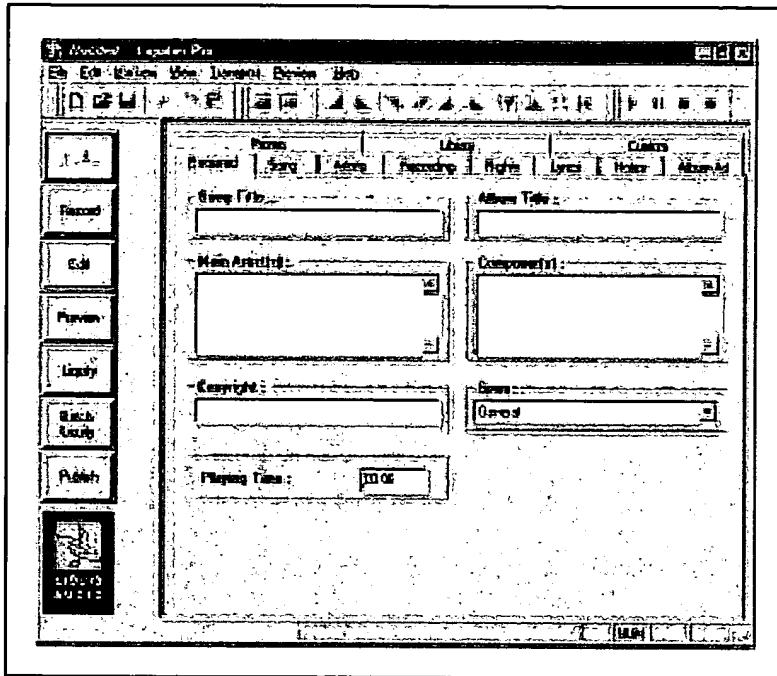
To close the Media pane:

- ▶ On the **Liquifier Pro taskbar**, click a workspace pane button.

The Media pane closes and the workspace pane you selected opens on your desktop.

## Required Tab

The Required tab contains fields that are required by Liquifier Pro to stream, download, and sell music on the Internet. All fields in the Required tab are duplicated on other tabs. They are consolidated on one tab for convenience.



*Media Pane—Required Tab*

## Required Fields for Streaming and Downloading Music on the Internet

Liquifier Pro requires the following media fields before it will allow a file to be published for streaming and free downloading:

- Song Title
- Album Title
- Copyright



*Remember—the contents of those fields labeled in bold type will appear in the MusicPlayer window, while the fields labeled in plain text do not.*

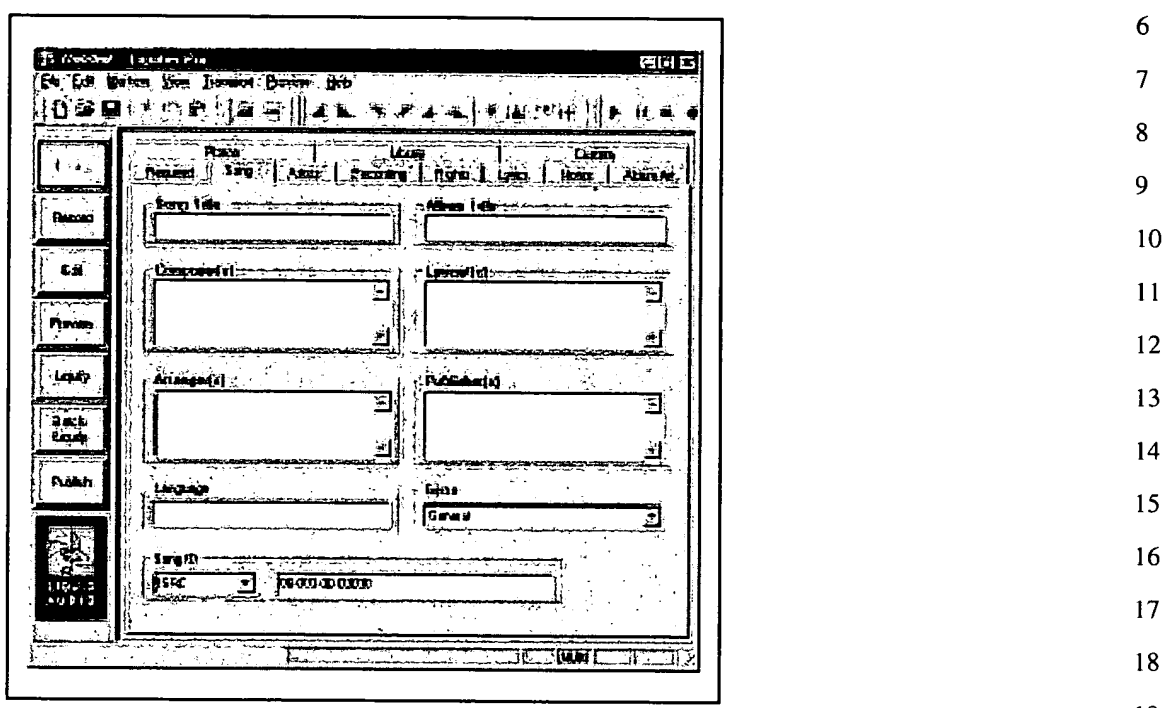
## Required Fields for Streaming and Selling Music on the Internet

Liquifier requires the following media fields before it will allow a file to be published for sale:

- Song Title
- Album Title
- Copyright
- Main Artist
- Composer
- Playing Time

[illegible]

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Table 5–4 provides detailed information about the fields in the Song tab.

**Table 5–4: Song Tab—Fields**

Field	Displayed in Player	Required Field	Character Limit
Song Title	Yes	Yes	120
Album Title	Yes	Yes	120
Composer(s)	Yes	Yes	120
Lyricist(s)	Yes	No	120
Arranger(s)	Yes	No	120
Publisher(s)	Yes	Yes	80
Language	No	No	20
Genre <sup>1</sup>	No	Yes	N/A
Song ID <sup>2</sup>	No	No	32

**<sup>1</sup>Genre Selections**

The selections are: Blues, Children, Christmas/Holiday, Classical, Country, Dance, Easy Listening, Electronic, Folk, General, Gospel, Jazz, New Age, Pop, R&B, Rap, Reggae, Rock, Soul, Sound Effects, Soundtracks, Spoken Word, and World.

**<sup>2</sup>Song ID Types**

Liquifier Pro recognizes seven standard song identification formats. Some of these are filtered to prevent invalid characters. Others are free-formatted because of incomplete specification. If you use a different identification scheme, set the Song ID type to Other and enter the code (up to 32 characters).

- **ISRC**—The international Standard Recording Code is a 12-character identification code. Table 5-5 describes the format used for the code.

**Table 5-5: IRSC Formats**

Description	Length (chars)	Format
Country Code (e.g. US for United States)	2	Alphanumeric
First Owner (allocated by Phonographic Performance Ltd. for audio)	3	
Year of recording (actually the last two digits)	2	Numeric
Designation code (assigned by first owner)	5	

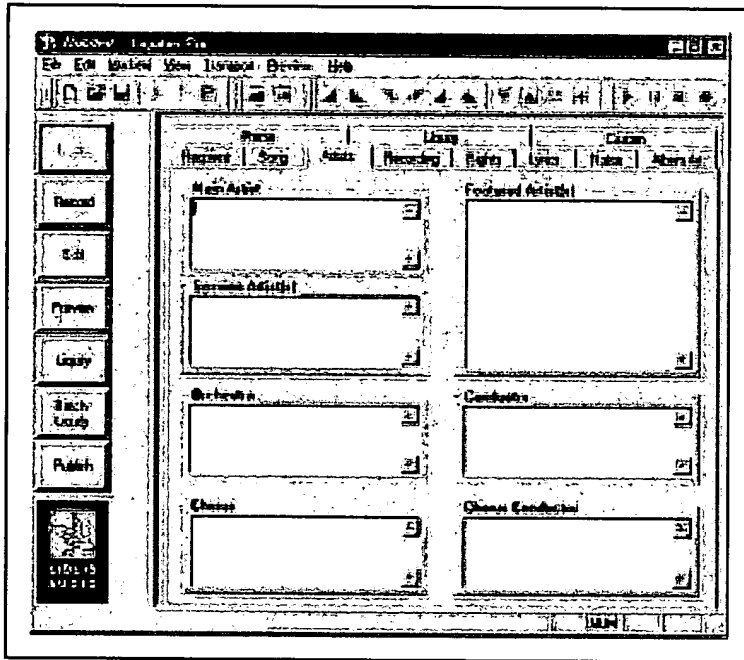
- **ISWC-T**—The International Standard Works Code is ISWC is made up of the letter “T” followed by nine digits, and finally a single check digit, calculated by a special formula to protect against errors. When printed it looks like this: ISWC T-034.524.680-1
- **ISAN**—International Standard Audio-Visual Number
- **ISMN**—International Standard Music Number
- **Harry Fox**—US Mechanical Rights agency
- **TuneCode**—European song identifier
- **Other**—Use this song ID type for alternate identification schemes. This type allows up to 32 alphanumeric characters to be entered.



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## Artists Tab

The Artists tab contains media fields related to the various artists that performed the recorded piece.



*Media Pane—Artists Tab*

Table 5–6 describes the fields in the Artists tab.

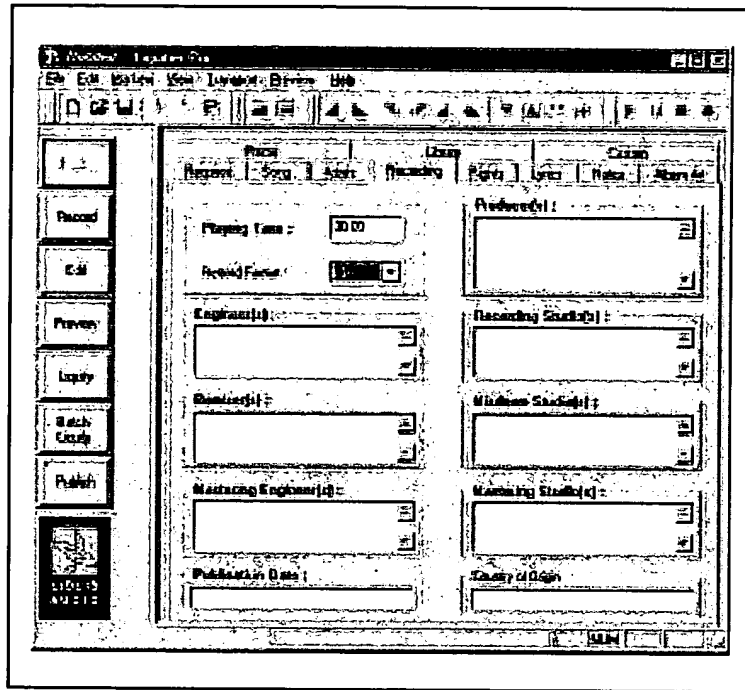
**Table 5–6: Artist Tab—Fields**

Field	Displayed in Player	Required Field	Character Limit
Main Artist	Yes	Yes	120
Featured Artist	Yes	No	120
Session Artist	Yes	No	120
Orchestra	Yes	No	80
Conductor	Yes	No	80
Chorus	Yes	No	80
Chorus Conductor	Yes	No	80

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## Recording Tab

The Recording tab contains media fields for logging the recording specifications (such as recording format and playing time) and recording credits.



Media Pane—Recording Tab

Table 5–7 describes the fields appear in the Recording tab.

**Table 5–7: Recording Tab—Fields**

Field	Displayed in Player	Required Field	Character Limit
Record Format <sup>1</sup>	No	No	N/A
Playing Time	Yes	No	N/A
Producer	Yes	No	120
Engineer	Yes	No	120
Recording Studio	Yes	No	120
Remixer	Yes	No	120
Mixdown Studio	Yes	No	120
Mastering Engineer	Yes	No	120
Mastering Studio	Yes	No	120
Country of Origin	No	No	120
Publication Date	Yes	No	120

#### <sup>1</sup>Record Format

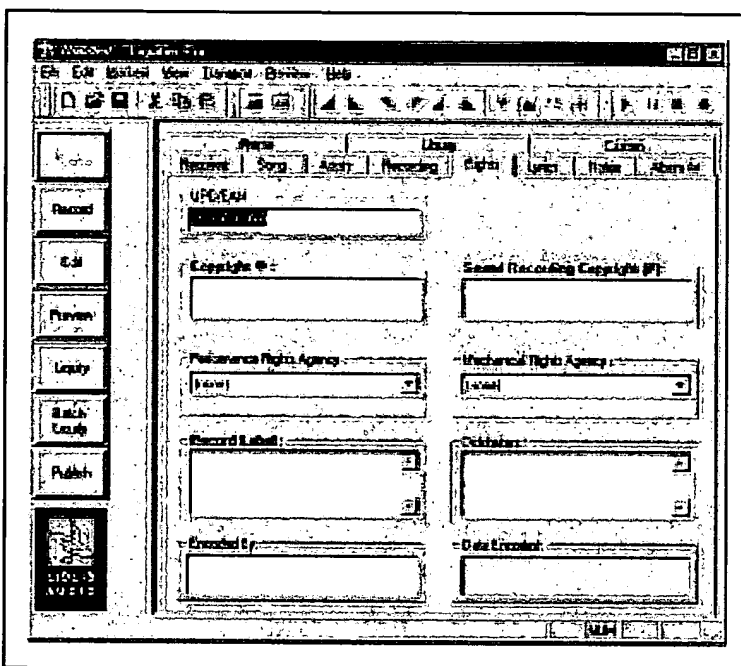
The recording type is selected from a list of valid a SPARS codes. The SPARS code is formatted as a three-character code that defines whether analog (A) or digital (D) processes were used for mixing, mastering and delivery. Since the Liquifier Pro always produces a digital output, only four choices are available for recording type:

- **AAD**—Analog mixing, analog mastering
- **ADD**—Analog mixing, digital mastering
- **DAD**—Digital mixing, analog mastering
- **DDD**—Digital mixing, digital mastering

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## Rights Tab

The Rights tab contains media fields for logging artist rights, agency rights, and information necessary for royalty tracking.



Media Pane—Rights Tab

Table 5–8 provides a description of the fields in the Rights tab.

**Table 5–8: Rights Tab—Fields**

Field	Displayed in Player	Required Field	Character Limit
UPC/EAN	No	No	10 <sup>1</sup>
Copyright	Yes	Yes	120
Sound Recording Copyright	Yes	Yes	120
Performance Rights Agency	No	No	N/A <sup>2</sup>
Mechanical Rights Agency	No	No	N/A <sup>2</sup>
Record Label	Yes	No	120
Distribution	No	No	120
Encoded By	No	No	120
Date Encoded	No	N/A	N/A <sup>3</sup>

**<sup>1</sup>UPC/EAN code**

The UPC/EAN code is the 10 digit Universal Product Code. This field is formatted and only allows numeric entry.

**<sup>2</sup>Selectable, non-editable field**

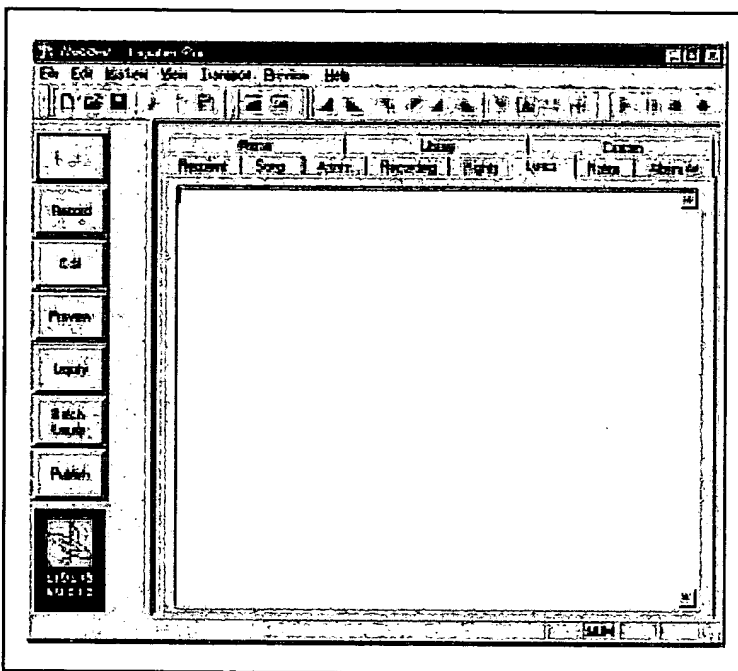
**<sup>3</sup>Date Encoded**

The date encoded field is set by the Liquifier Pro when an LQM file is created. The field contains information when media is loaded from an LQM file. This field is provided for informational purposes only.

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## Lyrics Tab

The Lyrics tab contains a text box for entering lyrics. The lyrics appear in the Liquid Music Player.



Media Pane—Lyrics Tab

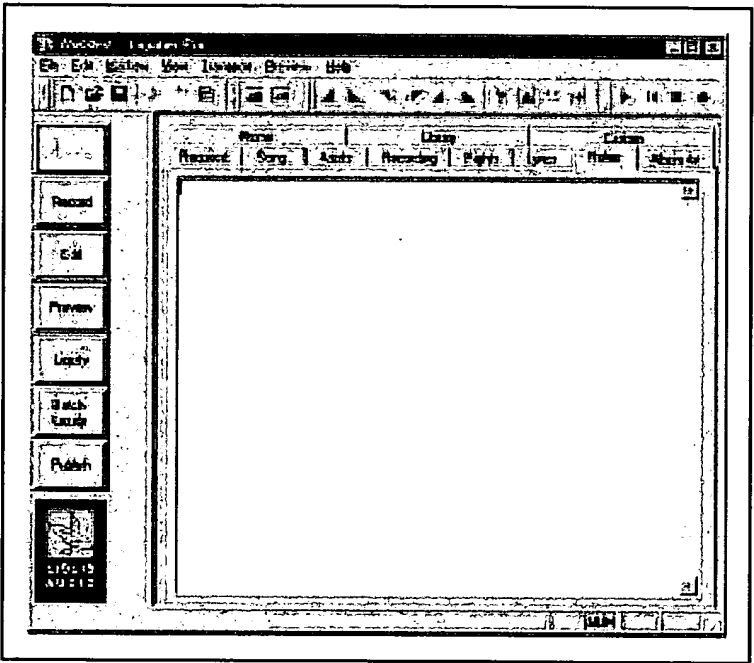
Table 5-9 describes the field in the Lyric Tab.

Table 5-9: Lyrics Tab—Fields

Field	Displayed in Player	Required Field	Character Limit
Lyrics	Yes	No	65535

Notes Tab

The Notes tab provides an empty field into which you can add notes or information not covered in other fields.



Media Pane—Notes Tab



Table 5–10 describes the field in the Note tab.

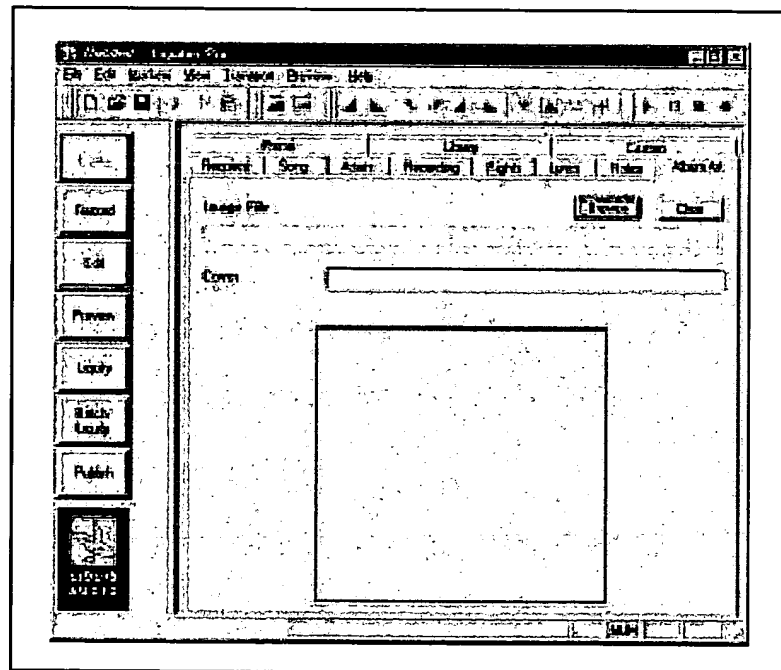
**Table 5–10: Notes Tab—Field**

Field	Displayed in Player	Required Field	Character Limit
Notes	Yes	No	65535

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## Album Art Tab

The Album Art tab contains media fields for importing album art and adding designer credits.



*Media Pane—Album Art Tab*

Note: The maximum image size that you can import is 32K. If you attempt to import a graphic that is larger than 32K, Liquifier Pro displays a dialog box with an error message in the Media pane.

Table 5–11 provides a description of the fields found in the Album Art tab.

**Table 5–11: Album Art Tab—Fields**

Field	Displayed in Player	Required Field	Character Limit
Image File	Image is displayed	No	N/A <sup>1</sup>
Cover Designer	Yes	No	120

#### <sup>1</sup>**Image File**

The image file field displays the file name of the image that is attached as the Album Art. When an image file is attached, the image data is read and displayed in the tab. The image data is saved in the LQM file. This field remains empty when the album art is loaded from an LQM file.

The recommended image size is 200 x 200 pixels. If the image is larger than 200 x 200 pixels, it will be truncated in the Liquid Music Player. The Liquifier Pro will display a warning dialog if the image size exceeds the recommended limits.

#### **Browse**

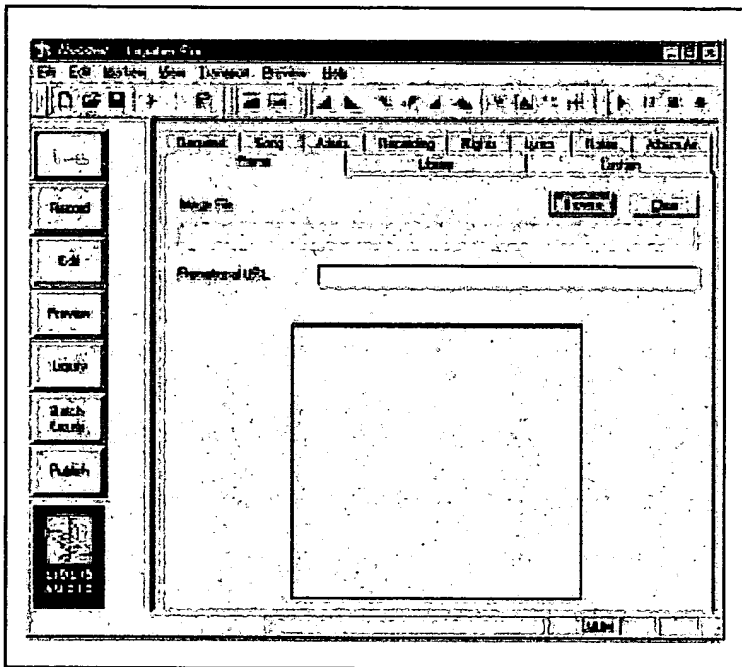
The Browse button is used to search the computer for image files to attach as Album Art. The default file type is .gif since these are the only image types supported in the Liquifier Pro.

## Clear

The Clear button removes the selected image. If you have an LQM file that contains an unwanted image, open the file, clear the image using this button and save the file.

## Promo Tab

The Promo tab lets you import promotional material to support your music.



*Media Pane—Promo Tab*

Table 5-12 describes the field in the Promo tab.

**Table 5-12: Promo Tab—Fields**

Field	Displayed in Player	Character Limit
Image File	Image is displayed	N/A <sup>1</sup>
Promotional URL	Yes	N/A <sup>2</sup>

#### <sup>1</sup>**Image File**

The image file field displays the file name of the image that is attached as the Album Art. When an image file is attached, the image data is read and displayed in the tab. The image data is saved in the LQM file. This field remains empty when the album art is loaded from an LQM file.

The recommended image size is 200 x 200 pixels. If the image is larger than 200 x 200 pixels, it will be truncated in the Liquid Music Player. The Liquifier Pro will display a warning dialog if the image size exceeds the recommended limits.

#### <sup>2</sup>**Promotional URL**

The promotional Universal Resource Locator, or World Wide Web address, for accessing more information. For example, `http://www.my_song.net`.

#### **Browse**

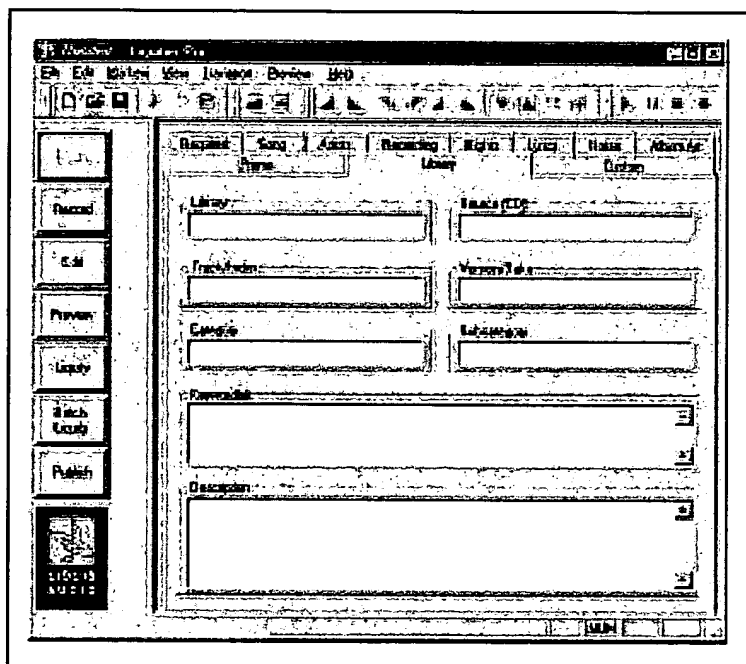
The Browse button is used to search the computer for image files to attach as Album Art. The default file type is .gif since these are the only image types supported in the Liquifier Pro.

#### **Clear**

The Clear button removes the selected image. If you have an LQM file that contains an unwanted image, open the file, clear the image using this button and save the file.

## Library Tab

The Library tab provides fields for users with a special requirement for cataloging sound effects libraries. By default this tab does not display in the Media pane.



Media Pane—Library Tab

Table 5–13 describes the fields in the Library tab.

**Table 5–13: Library Tab—Fields**

Field	Displayed in Player	Character Limit
Library	No	32
Track/Index	No	32
Category	No	32
Source CD	No	32
Version/Take	No	32
Subcategory	No	32
Keywords	No	32
Description	No	120

000

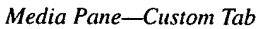


Table 5–14 describes the field in the Custom tab.

**Table 5–14: Custom Tab—Field**

Field	Displayed in Player	Character Limit
User Text	No	120



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## *Importing Audio Tracks from CD*

This chapter explains how to use the CD Import pane to import audio tracks from a pre-recorded Compact Disc (CD) into Liquifier Pro. You can import a single track or all tracks on the CD. You also have the option to import a track in its entirety, or you can import a portion of a track.

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### System Requirements—CD Import

To import existing audio from a CD into Liquifier Pro, you'll need to use the following components:

- Digital-quality CD recording
- Supported Plextor CD-ROM drive (requires a SCSI card)
- Stereo speakers

To review the complete list of system requirements for using Liquifier Pro, refer to “System Requirements” on page 2-1 in *Chapter 2, Getting Started*.

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## A Tour of the CD Import Pane

The CD Import pane is used to select and import audio sound tracks from a CD-quality recording into Liquifier Pro.

### CD Import Pane—Functions

The CD Import pane lets you perform the following tasks:

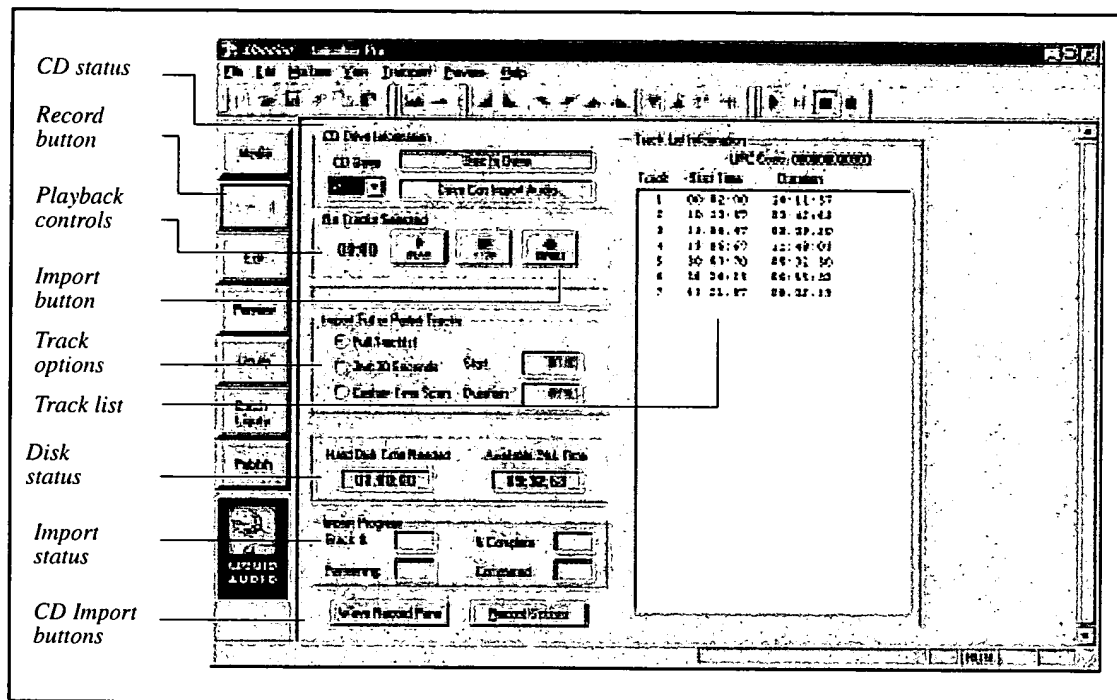
- Import one or more tracks off a CD into Liquifier Pro.
- Select full or partial tracks for import.
- Name and save the tracks to a directory on your hard drive.
- Monitor the status of the import process.
- Use playback controls to play an audio track after it has been imported into the Liquifier.

### CD Import Pane—Components

The CD Import pane contains the following components:

- **Record taskbar button**—Displays the Wave Record pane or the CD Import pane, depending on user preferences set in the Options window.
- **CD Status**—Identifies the CD-ROM drive on your PC and whether the drive is supported by Liquifier Pro.
- **Track List**—Lists the tracks on the CD available for import into the Liquifier.
- **Import button**—Initiates the import process.

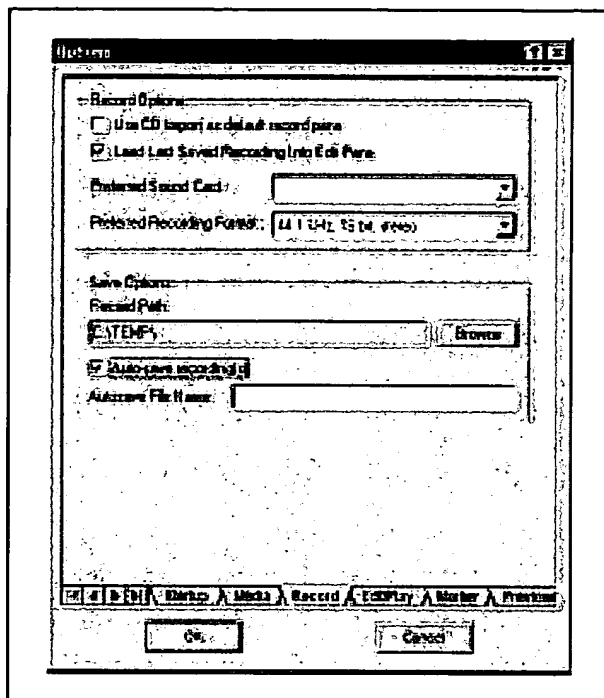
• <b>Playback controls</b> —Provides Play, Stop, and Pause buttons for playing back a track after it has been imported into Liquifier. Also, shows the elapsed time since the start of the playback process. The format is HH:MM:SS.	1
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• <b>Track Options</b> —Enables you to select a full track or part of a track to import.	4
	5
• <b>Disk Status</b> —Shows the duration of all tracks selected for import and the amount of free disk space on your hard drive. The format is HH:MM:SS. To import the selected audio tracks, the <b>Hard Disk Time Needed</b> must be less than the <b>Available Disk Time</b> .	6
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	9
• <b>Import Status</b> —Displays the progress of the import process. It depicts fields for the current track number, percent of the track that has been imported, time remaining to import the track, and time completed in the import process.	10
	11
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	13
• <b>Wave Record Pane button</b> —Opens a pane for recording WAV files directly into the Liquifier.	14
	15
• <b>Record Options button</b> —Opens the Options window for setting user preferences for the Record pane.	16
	17
Procedures for using the components are explained in subsequent sections of this chapter. Menus and toolbars used in the CD Import pane are described in <i>Chapter 3, Liquifier Pro Window</i> .	18
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CD Import Pane—Components

## CD Import Pane—User Options

Liquifier Pro provides a number of user options you can set to facilitate your work process. These options, which are described in *Chapter 16, Customizing Liquifier Pro*, are set in the Record tab of the Options window.



Options Window—Record Tab

Refer to Table 6-9-1 for a list of options that apply to the CD Import pane.

Table 9-1: CD Import Pane—User Options

To:	Go to:
Automatically display the CD Import pane (rather than the Wave Record pane) when the Record pane is opened	“Customizing Record, Import, and Save Options” on page 16-17

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## Opening the CD Import Pane

To open the CD Import pane:

- 1 Start **Liquifier Pro**.
- 2 Do one of the following:
  - On the **View** menu, click **Record pane**.
  - On the Liquifier Pro taskbar, click **Record**.
- 3 Click the **CD Import Pane** button.

The CD Import pane opens on your desktop.

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## Verifying the CD-ROM Drive

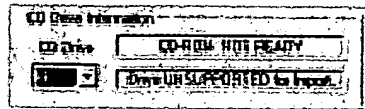
Before importing audio tracks, you must verify if the CD-ROM drive you plan to use is supported in this version of the Liquifier Pro.

To verify the CD-ROM drive:

- 1 Open the **CD Import** pane.
- 2 Insert the CD with the source material you want to use in the CD-ROM drive.
- 3 Under **CD Drive Information**, review the information displayed in the text fields.

4 Do one of the following:

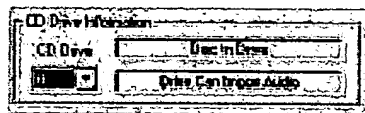
- If the following information appears:



the selected CD is not supported and you cannot proceed. Select a different drive from the **CD Drive** list.

Liquifier Pro revises the message and indicates if the new CD-ROM drive is supported.

- If the following information appears:



the selected CD is supported and you can proceed.

A list of tracks on the CD appears under the Track List Information area.

A screenshot of a 'Track List Information' dialog box. It shows a table with 7 tracks. Above the table is a 'UPC Code' field with the value '000000000000'.

Track	Start Time	Duration
1	03:02:00	10:11:57
2	17:13:57	03:42:48
3	17:56:47	06:09:20
4	19:05:47	11:40:50
5	33:53:10	05:32:30
6	39:24:21	06:13:12
7	41:23:57	06:01:10



- 5 Do one of the following:
- To import a full track from CD, go to “Importing a Full Track” on page 6-8.
  - To import a partial track from CD, go to “Importing a Partial Track” on page 6-11.
  - To import several tracks from CD, go to “Importing Several Tracks” on page 6-14.

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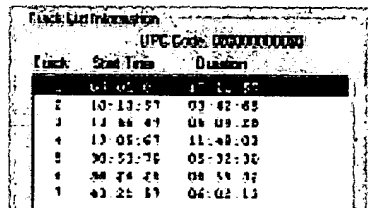
## Importing a Full Track

This section explains how to select one audio track from a CD and import the entire track to a directory on your hard drive. When you import an audio track, the Liquifier saves it as a WAV file that is separate from the workspace file.

To import a full track:

- 1 Start **Liquifier Pro**.
- 2 Open the **CD Import Pane**.
- 3 Under **Track List Information**, select the track you want to import

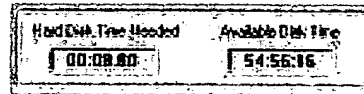
The selected track appears highlighted in the list. You can click the arrows to move up or down the track list.



Track	Start Time	Duration
1	01:02:00	01:10:50
2	01:13:57	03:42:45
3	01:56:47	06:09:20
4	03:05:47	11:40:03
5	03:53:76	05:32:30
6	04:34:28	08:54:32
7	05:25:17	04:02:13

- 4 To verify if your hard drive has enough free disk space to record the track, do the following:

- Review the time in **Hard Disk Time Needed** field.
- Review the time in the **Available Disk Time** field.



The format for each field is HH:MM:SS. The **Hard Disk Time Needed** should be less than the **Available Disk Time**.

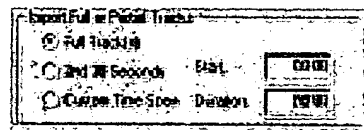
- 5 Do one of the following:

- If the time in the **Hard Disk Time Needed** field is more than the time in the **Available Disk Time** field, you cannot proceed.

Select a different audio track to record or make more space available on the hard disk to which you will import the tracks.

- If the time in the **Available Disk Time** field is less than the time in the **Hard Disk Time Needed** field, go to step 6.

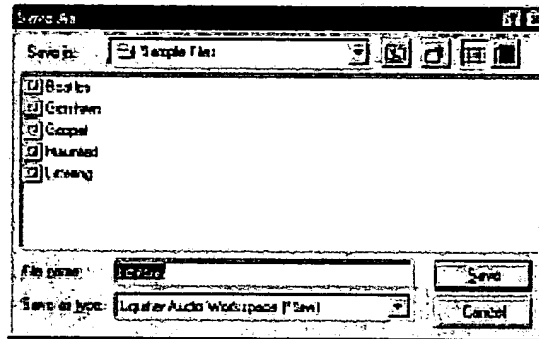
- 6 Under **Import Full or Partial Tracks**, click the **Full Track(s)** option button.



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- 7 Under **Track #**, click **Import**.



The Save As window opens.



- 8 In the **Save As Type** list, select **Wave Files (.wav)**.

Note: You should keep the WAV file together with the workspace file in the same directory as you proceed with Liquifier production tasks.

- 9 In the **File Name** box, type a name for the file.
- 10 Click the **Save** button.

The Save As window closes. The Liquifier begins to import the selected audio track as a WAV file.

- 11 Under **Import Progress**, do the following to monitor the progress of the import process:
- To monitor the time remaining for the track, review the **Remaining** field.
  - To monitor the percent of the track that has been imported, review the **% Complete** field.
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- To monitor the amount of time that has elapsed since the start of the import process, review **Completed** field.

## Importing a Partial Track

This section explains how to import a portion of a track from CD into the Liquifier.

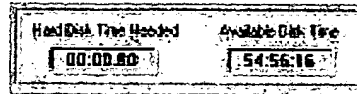
To import a partial track:

- 1 Start **Liquifier Pro**.
- 2 Open the **CD Import Pane**.
- 3 Under **Track List Information**, select the track you want to import.

The selected track appears highlighted in the list. You can click the arrows to move up or down the track list.

Track	Start Time	Duration
1	00:00:00	03:42:05
2	03:42:05	04:08:20
3	07:50:25	04:08:03
4	11:58:30	04:32:30
5	16:31:00	04:58:15
6	21:29:15	04:02:12

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- 4 To verify if your hard drive has enough free disk space to record the track, do the following:
- Review the time in **Hard Disk Time Needed** field.
  - Review the time in the **Available Disk Time** field.

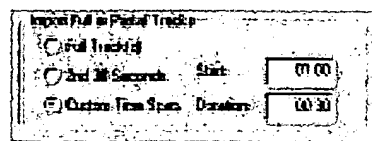


The format for each field is HH:MM:SS. The **Hard Disk Time Needed** should be less than the **Available Disk Time**.

- 5 Do one of the following:
- If the time in the **Hard Disk Time Needed** field is more than the time in the **Available Disk Time** field, you cannot proceed.  
  
Select a different audio track to record or make more space available on the hard disk to which you will import the tracks.
  - If the time in the **Available Disk Time** field is less than the time in the **Hard Disk Time Needed** field, you can proceed. Go to step 6.

6 Under **Import Full or Partial Tracks**, do one of the following:

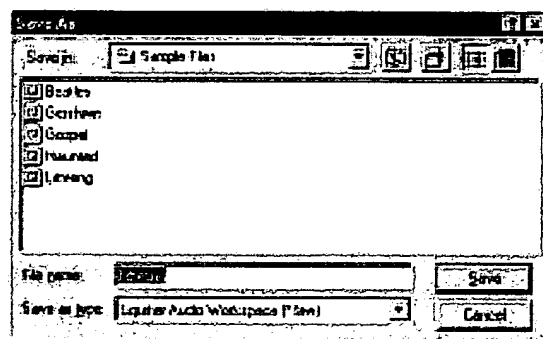
- To record the second 30 seconds of the track, click the **2nd 30 Seconds** button.
- To record a specified period of time, click the **Custom Time Span** button. Then, type the **Start** and **Duration** you want to use. The format is MM:SS.



7 Under **Track #**, click **Import**.



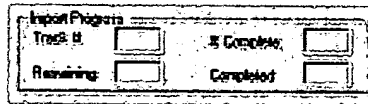
The Save As window opens.



8 In the **Save As Type** list, select **Wave Files (.wav)**.

Note: You should keep the WAV file together with the workspace file in the same directory as you proceed with Liquifier production tasks.

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- 9 In the **File Name** box, type a name for the file.
- 10 Click the **Save** button.
- The Save As window closes. The Liquifier begins to import the selected audio track as a WAV file.
- 11 Under **Import Progress**, do the following to monitor the progress of the import process:
- To monitor the time remaining for the track, review the **Remaining** field.
  - To monitor the percent of the track that has been imported, review the **% Complete** field.
  - To monitor the amount of time that has elapsed since the start of the import process, review **Completed** field.



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## Importing Several Tracks

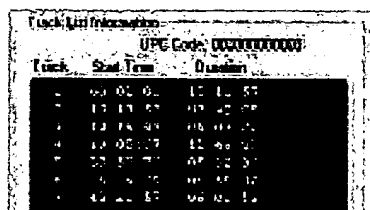
This section explains how to select several audio tracks from a CD and import them to a directory on your hard drive. When you select a group of audio tracks, the Liquifier imports them in the order in which they appear on the CD.

For your convenience, the audio tracks are saved as separate WAV files using a default file name and incremental track number. After the import process is complete, you can rename the individual WAV files, as necessary, to suit your needs.

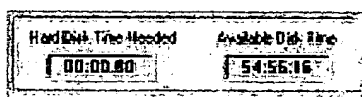
To import several tracks:

- 1 Start **Liquifier Pro**.
- 2 Open the **CD Import Pane**.
- 3 Under **Track List Information**, do one of the following:
  - To select individual tracks, select the tracks you want.
  - To select all tracks, hold down **SHIFT** and click the right mouse button.

Selected tracks appear highlighted in the list. You can click the arrows to move up or down the track list.



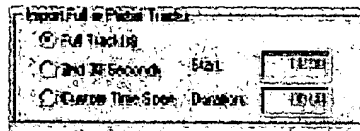
- 4 To verify if your hard drive has enough free disk space to record the tracks, do the following:
  - Review the time in **Hard Disk Time Needed** field.
  - Review the time in the **Available Disk Time** field.



The format for each field is HH:MM:SS. The **Hard Disk Time Needed** should be less than the **Available Disk Time**.



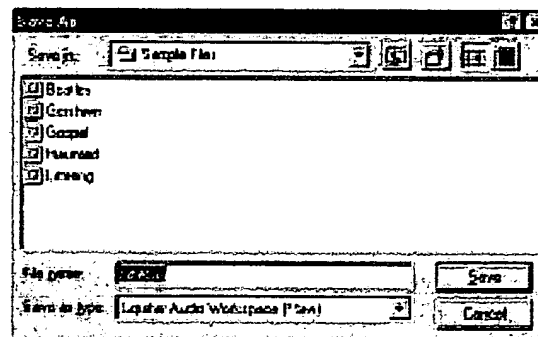
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- 2
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- 4
- 5 Do one of the following:
- If the time in the **Hard Disk Time Needed** field is more than the time in the **Available Disk Time** field, you cannot proceed.
- 6 Select fewer audio tracks to record or make more space available on the hard disk to which you will import the tracks.
- If the time in the **Available Disk Time** field is less than the time in the **Hard Disk Time Needed** field, you can proceed. Go to step 6.
- 7
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- 9
- 10 Under **Import Full or Partial Tracks**, click the **Full Track(s)** option button.



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- 7 Under **Track #**, click **Import**.



The Save As window opens.



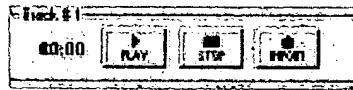
- 8 In the **Save As Type** list, select **Wave Files (.wav)**.  
Note: You should keep the WAV file together with the workspace file in the same directory as you proceed with Liquifier production tasks.
- 9 In the **File Name** box, type a name for the file.
- 10 Click the **Save** button.  
The Save As window closes. The Liquifier begins to import the selected audio track as a WAV file.
- 11 Under **Import Progress**, do the following to monitor the progress of the import process:
  - To monitor the time remaining for the track, review the **Remaining** field.
  - To monitor the percent of the track that has been imported, review the **% Complete** field.
  - To monitor the amount of time that has elapsed since the start of the import process, review **Completed** field.

Import Progress			
Track #	<input type="text"/>	% Complete	<input type="text"/>
Remaining	<input type="text"/>	Completed	<input type="text"/>

## Playing Back the Imported Tracks

To play back the imported tracks:

- 1 Under **Track List Information**, select the track you want to play back.
- 2 Under the Playback Controls, do the following:
  - Click **Play** to play the audio file.
  - Click **Stop** to stop the audio file.



## Closing the CD Import Pane

To close the CD Import pane:

- On the **Liquifier Pro taskbar**, click a workspace pane button.

The CD Import pane closes and the workspace pane you selected opens on your desktop.

# *Recording Audio from a Sound Card*

This chapter explains how to use the Wave Record pane to record audio through a sound card directly into the Liquifier Pro.

## ..... System Requirements—Wave Record

To record audio into Liquifier Pro, you'll need the following components:

- Source audio material
- Sound Blaster-compatible sound card

To review the complete list of system requirements for using Liquifier Pro, refer to “System Requirements” on page 2-1 in *Chapter 2, Getting Started*.

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## A Tour of the Wave Record Pane

The Wave Record Pane is used to capture audio directly to a WAV file through the sound card on your computer.

### Wave Record Pane—Functions

The Wave Record pane lets you perform the following tasks:

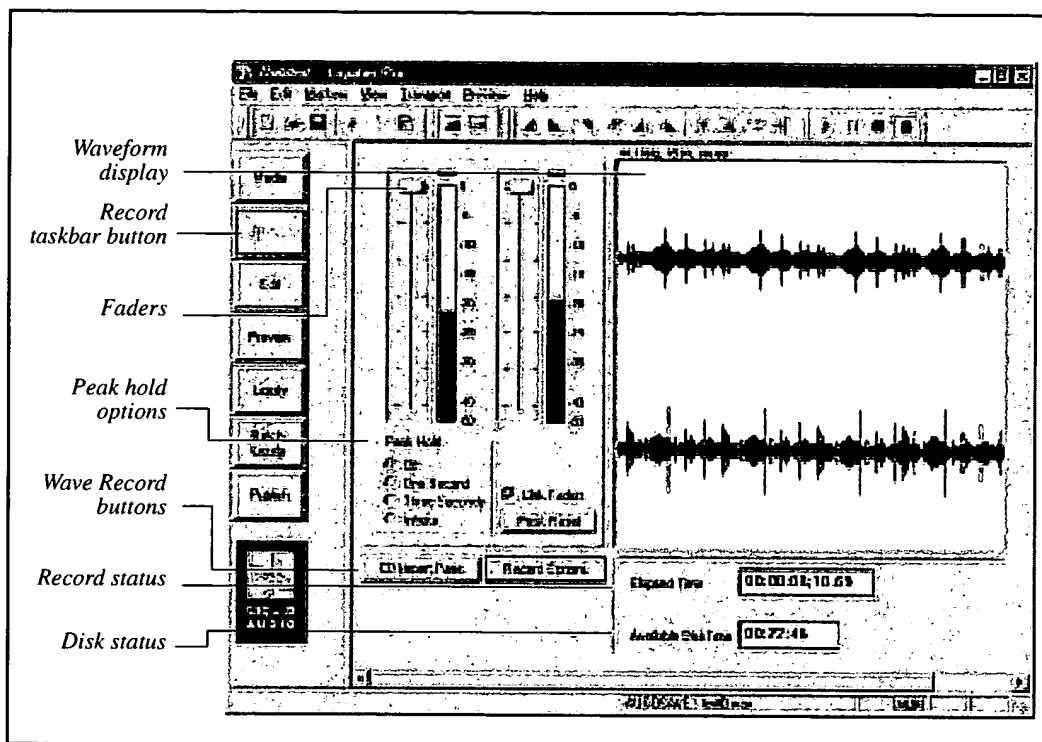
- Record audio through a sound card into Liquifier Pro.
- Adjust audio input levels using faders.
- Monitor input audio levels through peak hold meters.
- Use the Waveform Display to monitor the status of the record process.
- Name and save the WAV file to a directory on your hard drive.
- Use transport controls to record audio and play a WAV file after it has been recorded into the Liquifier.

### Wave Record Pane—Components

The Wave Record Pane supplies the following components:

- Waveform display
- Faders
- Peak hold meter
- Record status
- Disk status
- Wave Record buttons

This section describes the purpose of each component.  
 Procedures for using the components are explained in  
 subsequent sections of this chapter. Menus and toolbars used  
 in the Wave Record pane are described in *Chapter 3*,  
*Liquifier Pro Window*.



Wave Record Pane—Components

## Transport Toolbar

The Transport toolbar appears at the top of the Liquifier Pro window. It provides record functions. The playback functions are disabled in the Wave Record pane.



**Play**—Disabled in Wave Record pane.



**Pause**—Disabled in Wave Record pane.



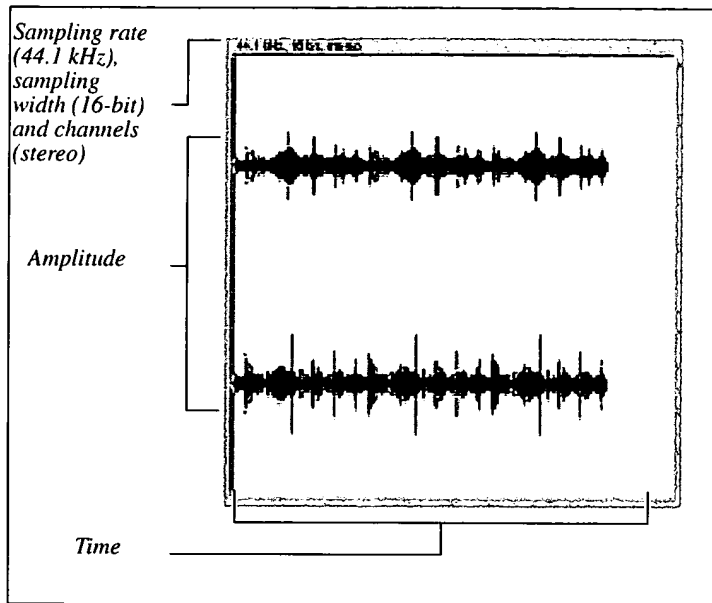
**Stop**—Stops recording the incoming audio.



**Record**—Begins recording the incoming audio.

## Waveform Display

The Waveform Display shows the incoming signal that is being recorded from the analog input of the sound card. It is generated two ways, depending on whether the sound card supports input-level monitoring.



*Wave Record Pane—Waveform Display*

If input-level monitoring is supported, the level is read from the sound card at a regular interval. The level reported is the peak for that time period.

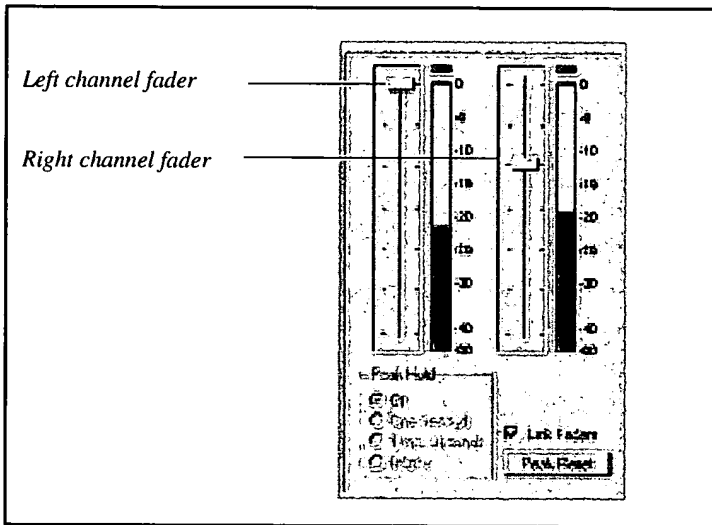
If the sound card doesn't support input-level monitoring, the software performs a decimated peak-detection process on the current data block to determine the approximate peak level. Liquifier Pro will display a warning message (optional) if the peak monitoring is being performed in software.

The peak levels are used to generate the waveform that is displayed in the Wave Record pane. The waveform is scaled linearly with amplitude on the vertical axis and time on the horizontal axis.



## Faders

The faders are used to control the level of incoming audio to ensure that recording occurs within an optimal dynamic range. The faders function as input level controls, which you can use to boost or attenuate the incoming signal before it is recorded to disk.



*Wave Record Pane—Faders*

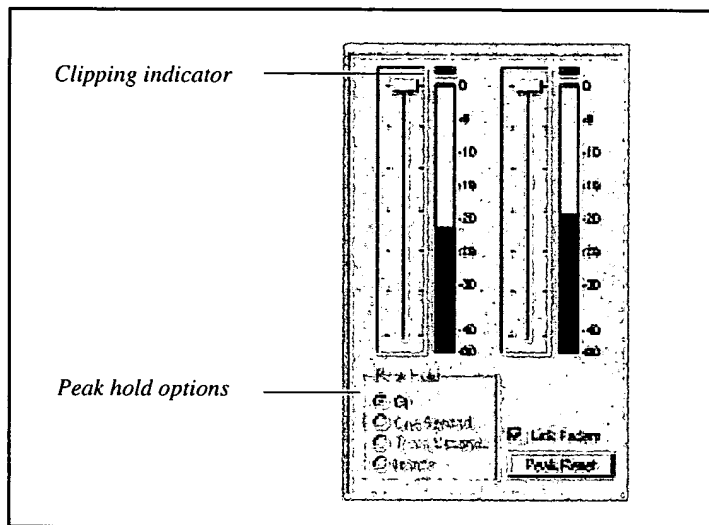
Two faders are provided. They can be used to monitor a single (mono) or dual (stereo) channels.

You can adjust the faders by selecting the slider and moving it up or down in the window. Faders can only be moved if your sound card supports input-level control.

If your sound card doesn't support input-level control, the Liquifier Pro will disable the faders.

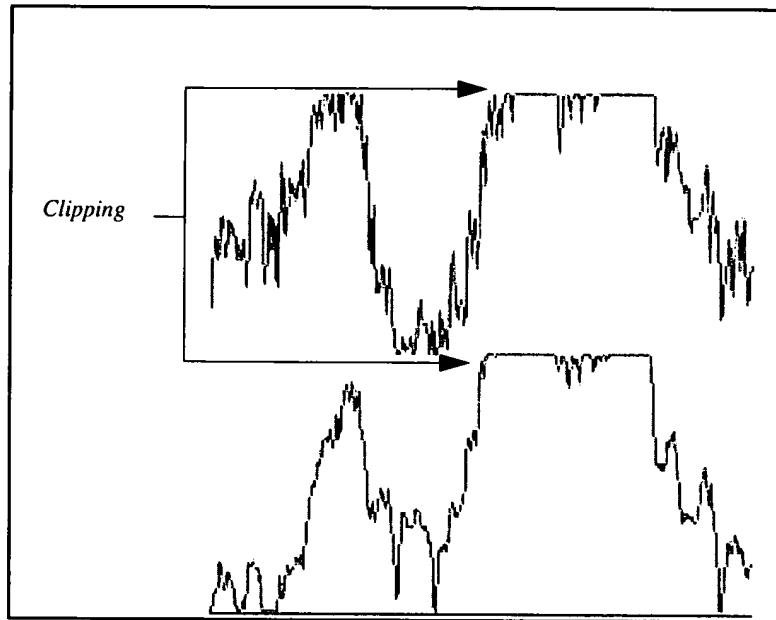
## Peak Hold Meter

The peak hold meter is used to monitor the peak level of incoming audio. The peak hold options determine the duration for which a peak level is held. They are useful for detecting clipping during the recording process. The Clipping Indicators illuminate when clipping is detected.



Wave Record Pane—Peak Hold Meter

Clipping occurs when the incoming signal level is too strong for an accurate digital representation. Clipping distorts the audio and can be controlled by reducing the input volume.



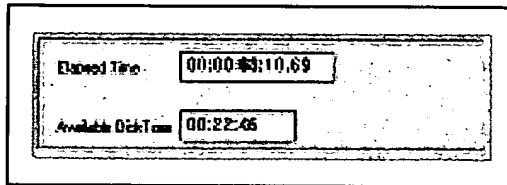
*Waveform Display—Clipping Example*

The Peak Hold options for setting the decay time are as follows:

- **Off**—Peak level is not held.
- **One Second**—Peak level will be held for one second.
- **Three Seconds**—The peak level will be held for three seconds.
- **Infinite**—Peak levels will be held until you reset them using the Peak Reset button, located next to the Peak Hold options. This mode allows you to verify if audio clipping has occurred without the need to watch the audio level constantly.

## Record and Disk Status

The Elapsed Time and Available Disk Time indicators track the record and disk usage status, respectively, during the recording process.



*Wave Record Pane—Disk Status*

The Elapsed Time indicator shows the length of time taken by the current recording in the currently selected time display format. To toggle between time display formats, select the time and double-click the mouse button.

The Available Disk Time tracks the amount of disk space on your PC that is available for the recorded audio. The format is HR:MIN:SEC. The amount of available time depends on the selected record format.

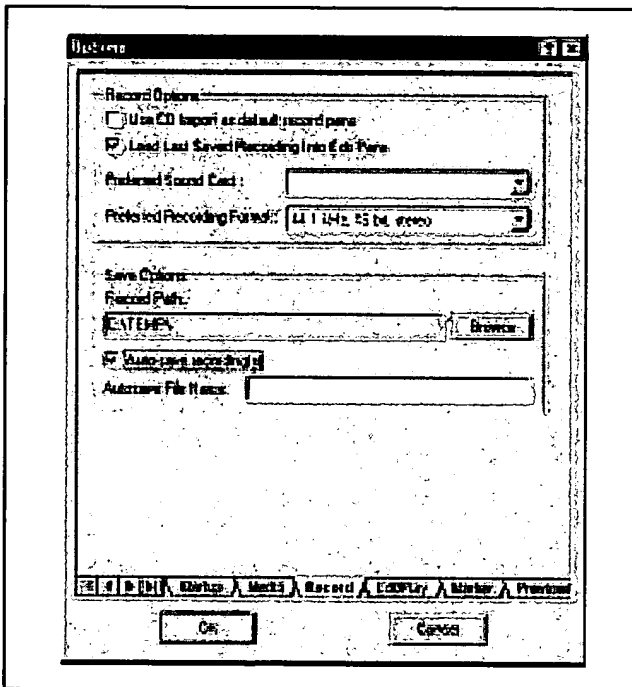
## Wave Record Pane Buttons

The Wave Record pane contains two buttons:

- **CD Import pane**—Opens a pane for digitally importing audio tracks into the Liquifier from audio CDs.
- **Record Options**—Opens the Options window for setting user preferences for the Record pane.

## Wave Record Pane—User Options

Liquifier Pro provides a number of user options you can set to facilitate your work process. These options, which are set in the Record tab of the Options window, are described in *Chapter 16, Customizing Liquifier Pro*.



Options Window—Record Tab

Refer to Table 7–1 for a list of options that apply to the Wave Record pane.

**Table 7–1: Wave Record Pane—User Options**

To:	Go to:
Select the sound card to use for recording	“Customizing Record, Import, and Save Options” on page 16-17
Select the record format (sample rate, resolution, and channels) to use for recording through the sound card	“Customizing Record, Import, and Save Options” on page 16-17
Specify a default location in which to save audio sound files	“Customizing Record, Import, and Save Options” on page 16-17

## Tips for Recording WAV Files through a Sound Card

This section provides recommendations for recording WAV files through a sound card.

- Choose an appropriate recording format. Use a CD-quality sampling rate (44.1 kHz), sampling size (16-bit) and two channels to create the input file.
- For high-quality recordings, import audio directly from CD or use a sound card with digital inputs.
- Check cable connections from the output of your audio equipment to the sound card input.
- Monitor the input levels before recording to ensure that the audio is not being clipped.

- Before recording through the analog inputs of a sound card, mute unused sources using the Multimedia Properties window. The mixer can be found in the Multimedia menu in the Control Panel of your PC. For more information on setting levels, refer to the user's guide that came with your sound card.
- For stereo source audio, link the gain faders to maintain the original stereo image.
- Adjust the levels of the audio through the signal path to maximize the use of the dynamic range and prevent clipping.

If the signal is too strong, the recording will saturate causing clipping at the peaks and introducing unwanted distortion. Clipping is depicted by a horizontal line at the peaks in the waveform and illumination of the clip indicators.

If the signal is too low, the recording will be degraded due to a low signal-to-noise ratio (SNR). The SNR is a ratio of the signal level to the noise floor of the sound card. The higher this ratio, the less degradation of the audio is experienced.


- Check your recording by playing it back in the Edit pane. Insert tick marks during playback to bookmark locations that may be clipped. Visually examine the waveform at the tick marks by selecting around the tick mark and zooming in to sample resolution.

Go to *Chapter 9, Previewing Audio Images*, for complete information on the Edit pane.

.....	1
Opening the Wave Record Pane	2
To open the Wave Record pane:	3
1 Start <b>Liquifier Pro</b> .	4
2 Do one of the following:	5
• On the <b>View</b> menu, click <b>Record pane</b> .	6
• On the Liquifier Pro taskbar, click <b>Record</b> .	7
The Wave Record pane opens on your desktop.	8
Note: If the CD Import pane appears, click the <b>Wave Record Pane</b> button.	9
.....	10
Adjusting Input Levels Before Recording	11
Before recording the audio, it is recommended that you test the audio input and adjust the levels, as necessary, to achieve the sound quality that you want. Refer to “Tips for Recording WAV Files through a Sound Card” on page 7-11 for additional recommendations or recording quality audio.	12
This section explains how to prevent your recording from clipping. It also explains how to adjust the level controls on your sound card to prevent clipping. Clipping, which appears as a horizontal line among the peaks in the Waveform Display, distorts the audio. It can be prevented by adjusting the input levels on your sound card.	13
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To adjust input levels before recording:

- 1 Open the **Wave Record** pane.
- 2 Do one of the following:
  - On the **Transport** menu, click **Record**.
  - On the **Transport** toolbar, click .
  - Press **F4**.

The recording process starts.

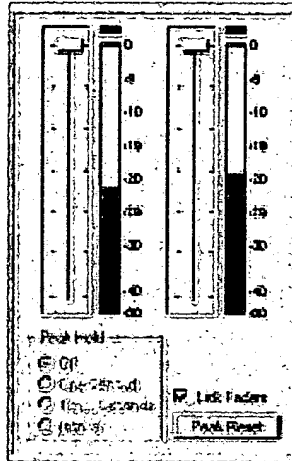
- 3 Listen to the loudest passage of the WAV file. Ensure that the signal is a strong and portions of the recording are not clipped.
- 4 Adjust the source level, as needed.
- 5 Adjust the faders to prevent signal clipping. Do one of the following:
  - To adjust individual level settings, select one **Link Fader** checkbox.
  - To link both faders together after final adjustments are made, click both checkboxes.

Note: Due to the sensitivity of the high-resolution meters in the Wave Record pane, you may see meter movement when no recording is occurring. This represents the noise present in your computer and sound card.

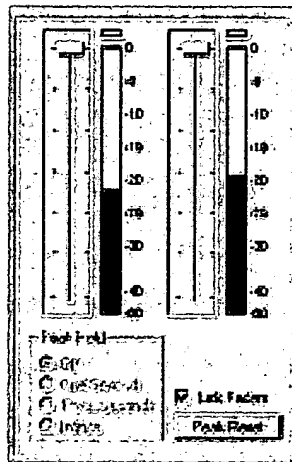
- 6 Under **Peak Hold**, select the **Three Seconds** option.


7 Look at the Clip Indicator and do one of the following:

- If the Clip Indicator is illuminated, you must reduce the level control of the sound card. Go to step 8.



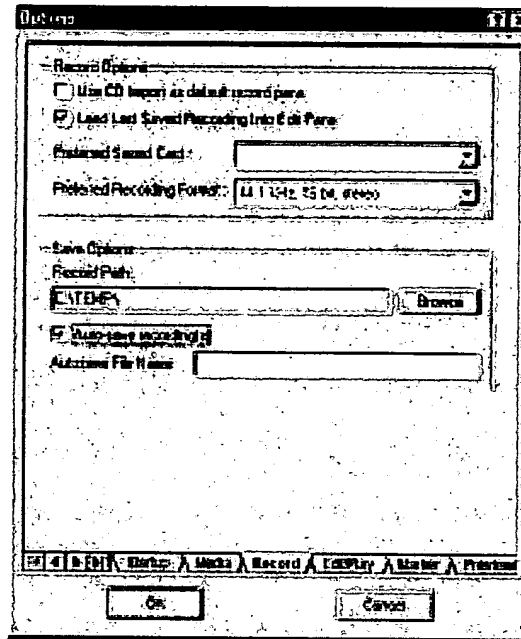
- If the Clipping Indicator is not illuminated, you do not need to adjust the level control of your sound card. Go to step 10.



- 8 To adjust the level control on your sound card, do the following:
- A) In the **Control Panel**, double-click the **Multimedia Properties** icon.
  - B) Open the **Recording Options** window for your sound card.
  - C) Adjust the level controls in the sound card for the selected source input until the meters peak between the **0 dB** and **-5 dB** marks.
  - D) Ensure that the Clipping Indicator in the Wave Record pane doesn't illuminate. If it does, then reduce the level.
- 5 To verify the settings, do the following:
- A) Under **Peak Hold**, select the **Infinite** option.
  - B) Start the recording process again and listen for the loudest passage of WAV file.
  - C) Ensure that the Clipping Indicator doesn't illuminate in the Wave Record pane.
- 10 Do one of the following:
- On the **Transport** menu, click **Stop**.
  - On the **Transport** toolbar, click .
  - Press the **SPACEBAR**.
- The Save As window opens.
- 11 Click **Cancel**.
- The Save As window closes.

12	Reset the peak level by clicking <b>Peak Reset</b>	1
	Note: You can use the faders if they are available to control the input level on the sound card.	2
	Liquifier Pro is now ready to record audio from your sound card.	3
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	<b>Customizing Auto Save Options</b>	7
	Typically, when you record an audio sound file and stop the recording by clicking the Stop transport control, Liquifier Pro displays the File Save As dialog box, prompting you to name the file. This process can become time-consuming if you frequently import multiple files from a CD and you want to save each recording to a different file.	8
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	The Auto Save options enable you to disable the File Save As window, and automatically append a unique name and take number to each file when recording is terminated. If you do not select this option, the File Save As window appears each time you terminate the recording process and prompts you to name the recording.	13
		14
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	To customize the Auto Save options:	17
		18
1	Open the <b>Wave Record</b> pane.	19
2	Click <b>Record Options</b> .	20
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The Record Options page opens.



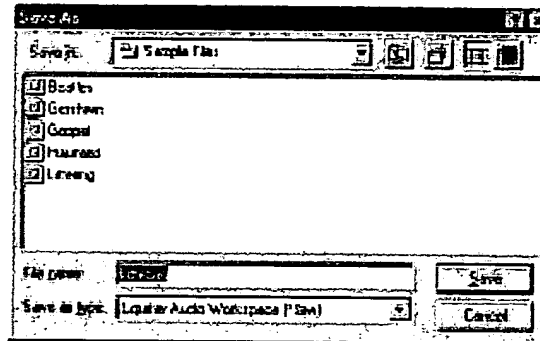
3 Under **Save Options**, do the following:

- A) To automatically save multiple recordings of an audio sound file into separate files using the Record and Stop transport controls, select the **Auto-save recordings** check box.
- B) To provide a default name for the autosave file, type a file name (such as *autosav*) in the **Auto-save filename** text field.

Note: The file name can be up to 32 characters long.

Liquifier Pro automatically appends a sequential number to the end of the file name, such as <i>autosav1</i> , and saves it as a WAV file in the specified directory.	1
	2
	3
3 To enable the new options, click <b>OK</b> on the <b>Options</b> window.	4
	5
The Options window closes and the options are ready to use.	6
	7
.....	8
<b>Recording Audio</b>	9
To record audio:	10
1 Open the <b>Wave Record</b> pane.	11
2 Set the audio levels, as necessary, to achieve the sound quality you want.	12
3 Do one of the following:	13
• On the <b>Transport</b> menu, click <b>Record</b> .	14
• On the <b>Transport</b> toolbar, click <b>●</b> .	15
• Press <b>F4</b> .	16
The recording process starts.	17
The Liquifier records the audio. As it does, the audio is dynamically rendered in the Waveform Display.	18
	19
4 When the audio has concluded, do one of the following:	20
• On the <b>Transport</b> menu, click <b>Stop</b> .	21
• On the <b>Transport</b> toolbar, click <b>■</b> .	22
• Press the <b>SPACEBAR</b> .	23
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The Save As window opens.



- 5 In the **Save As Type** list, select **Wave Files (.wav)**.

Note: You should keep the WAV file together with the workspace file in the same directory as you proceed with Liquifier production tasks.

- 6 In the **File Name** box, type a name for the file.

- 7 Click the **Save** button.

The Save As window closes and the WAV file is saved to the directory you specified.

## Closing the Wave Record Pane

To close the Wave Record pane:

- On the **Liquifier Pro taskbar**, click a workspace pane button.

The Wave Record pane closes and the workspace pane you selected opens on your desktop.

## Selecting Audio

This chapter explains how to use the Edit pane to select passages of audio from a WAV file for encoding. The encoded audio images, which are represented as clips and songs, are used to stream and download music on the Internet. Selecting audio images is the next step in the process of preparing your music for publishing on the Internet.

The Edit pane also supplies a set of editing tools for making rudimentary modifications to an audio file, such as removing clicks or pops. Although most users will have completed the mastering of their music using professional audio equipment, you may have a need to perform some minor edits to the audio images. Refer to Chapter 10, *Editing Audio Images*, for complete information on editing WAV files.

### .....

#### Types of Audio Images

In preparing music for the Internet, you'll need to select two types of audio images: a song and a clip. Both types of audio images are published to a Liquid Music Server and accessed by the end user through the Liquid Music Player.

#### **Song**

A song is a portion of a WAV file that contains a complete music track. The song, which can be of any duration, is offered to the end user for purchase and download over the Internet.



## **Clip**

A clip is a subset of the song. It is offered to the end user as free preview of the complete music track.

A clip is shorter in duration than a song, typically 30 seconds or less. Most clips are selected from a musical passage that starts 30 seconds or 45 seconds into a song.

The duration of a clip is limited by royalty issues that govern payment to artists. ASCAP requires fees to be paid to an artist for music that plays longer than 30 seconds over the Internet.

The creation of a clip is optional; it is not required to offer music for purchase over the Internet. Most artists, however, provide clips, along with their songs, to showcase their work to potential consumers.

.....

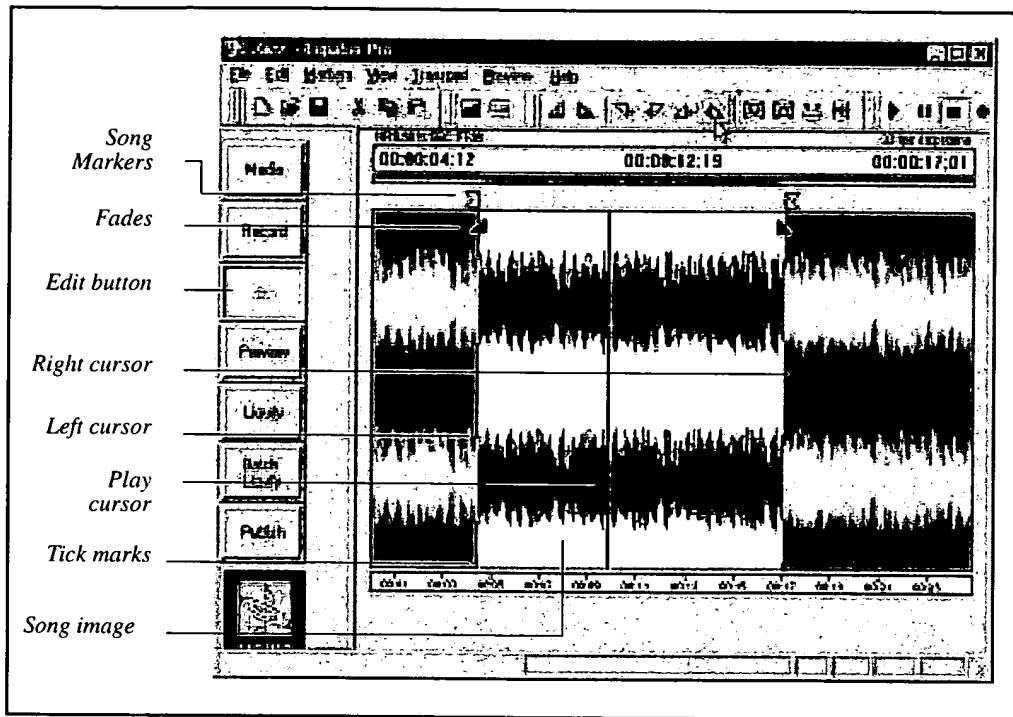
## **A Tour of the Edit Pane**

The Edit pane is used to select clip and song images from WAV files imported or recorded in Liquifier Pro. The audio images will be encoded and offered to the consumer over the Internet.

<b>Edit Pane—Functions</b>	1
The Edit pane lets you perform the following functions:	2
• Open a WAV file.	3
• Generate a waveform for the selected WAV file.	4
• Use tick marks to bookmark and easily locate points of interest in a WAV file.	5
• Use cursors to indicate the preliminary start and end points for an audio image.	6
• Use markers to mark the final start and end point for a song or clip.	7
• Use the Waveform Editor to copy, crop, or cut portions of an audio image, if necessary.	8
• Apply non-destructive fades to the start and end point of an audio image to remove unwanted clicks.	9
• Use transport controls to play, pause, and stop an audio image during playback.	10
• Audition different parts of an audio file with pre-roll, post-roll, and other rehearse functions.	11
• Name and save the final audio images to a directory on your hard drive.	12
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<b>Edit Pane—Components</b>	19
The Edit pane furnishes the following components:	20
• <b>Edit taskbar button</b> —Opens the Edit pane in Liquifier Pro.	21
• <b>Tick marks</b> —Bookmarks points of interest or concern in a WAV file. Ticks appear as small, red bars along the bottom of the Waveform Editor.	22
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- **Play cursor**—Indicates the portion of audio that is currently playing. It appears as a moving vertical line in the Waveform Editor.
- **Left cursor**—Separates the unselected portion of a WAV file from the selected portion. The unselected portion appears gray. The selected portion appears clear. When a marker is docked to the left cursor, it indicates the start of a song or clip.
- **Right cursor**—Separates the selected portion of a WAV file from the unselected portion. The selected portion appears clear. The unselected portion appears gray. When a marker is docked to the right cursor, it indicates the end of a song or clip.
- **Markers**—Mark the final in-point and out-point for a song or clip. Markers appear as small, yellow triangles along the top of the Waveform Editor.
- **Fades**—Indicate whether fades are applied at the in-point and out-point for clip or song. Fades appear as small, green triangles at the left and right cursor positions. They are only visible when the cursors are on a clip or song selection.

Procedures for using these components are explained in subsequent sections of this chapter. Menus and toolbars used in the Edit pane are described in *Chapter 3, Liquifier Pro Window*.



*Edit Pane—Components*

## Waveform Editor

The Waveform Editor provides a visual representation of the source audio. It displays the peak amplitude of the waveform over time. It enables you view, select, and modify uncompressed digital audio using the tools supplied in the Edit pane.

## **Waveform Editor—Functions**

You'll use the Waveform Editor to select the clip and song images you want to encode, as well as to edit any unwanted passages of audio, if necessary.

The Waveform Editor provides a complete set of tools for marking points of interest in a WAV file, selecting passages of the WAV file for clips and songs, and applying fades to the start and end of an audio file.

The Waveform Editor also supplies a set of editing tools for making rudimentary modifications to an audio file, such as removing unwanted audio from a clip or song.

Although most users will have completed the mastering of their music using professional audio equipment, you may have a need to perform some minor edits to the audio images. The Copy, Cut, Paste, and Delete commands provide these functions. All edits are non-destructive and overwrite the original recording when you save the edits.

To view portions of an audio image in different modes, the Waveform Editor also furnishes a Zoom function. You can, for example, select and zoom in on a portion of the audio file to isolate and play individual passages. This function can help you hear phonetic details that you might want to bookmark, ignore, or otherwise cut from the image.

## **Waveform Editor—Waveform Generation**

When you open an audio file in the Edit pane, Liquifier Pro generates the amplitude waveform and displays it in the Waveform Editor. In digital audio, sound is represented as a series of numerical values. These values correspond to the waveform of the audio file.

The amplitude values of the waveform are stored as a	1
sequence of numbers called samples. Samples are stored in	2
the audio file at regular intervals called the sampling rate.	3
CD-quality audio uses a sampling rate of 44.1 kHz, or 44,100	4
discrete samples of audio per second.	
The amplitude of a waveform is represented on the vertical	5
axis of the Waveform Editor. Time is shown in the time ruler	6
bar along the horizontal axis of the window. The units of	7
time scale according to the zoom level.	
Two methods are available for generating waveforms. In the	8
default method, Liquifier Pro divides the source audio into	9
blocks, finds the maximum and minimum value in each	10
block, and uses the decimated values to generate the	11
waveform. If the WAV file is large, using this method to	12
generate waveforms can be slow.	
The second method, referred to as Fast Waveform, generates	13
the waveform quickly but with less precision. Instead of	14
looking at every sample in the WAV file, Liquifier Pro looks	15
at every 32 <sup>nd</sup> sample and then displays an approximation of	16
the audio file in the window.	
This method is quicker, but less accurate than the default	17
method because not all peaks are represented in the display.	18
If you want to check an audio file for clipping or pops, this	19
method is not recommended. For more information about the	20
generating fast waveforms, go to “Customizing Edit	21
Options” on page 16-23.	22
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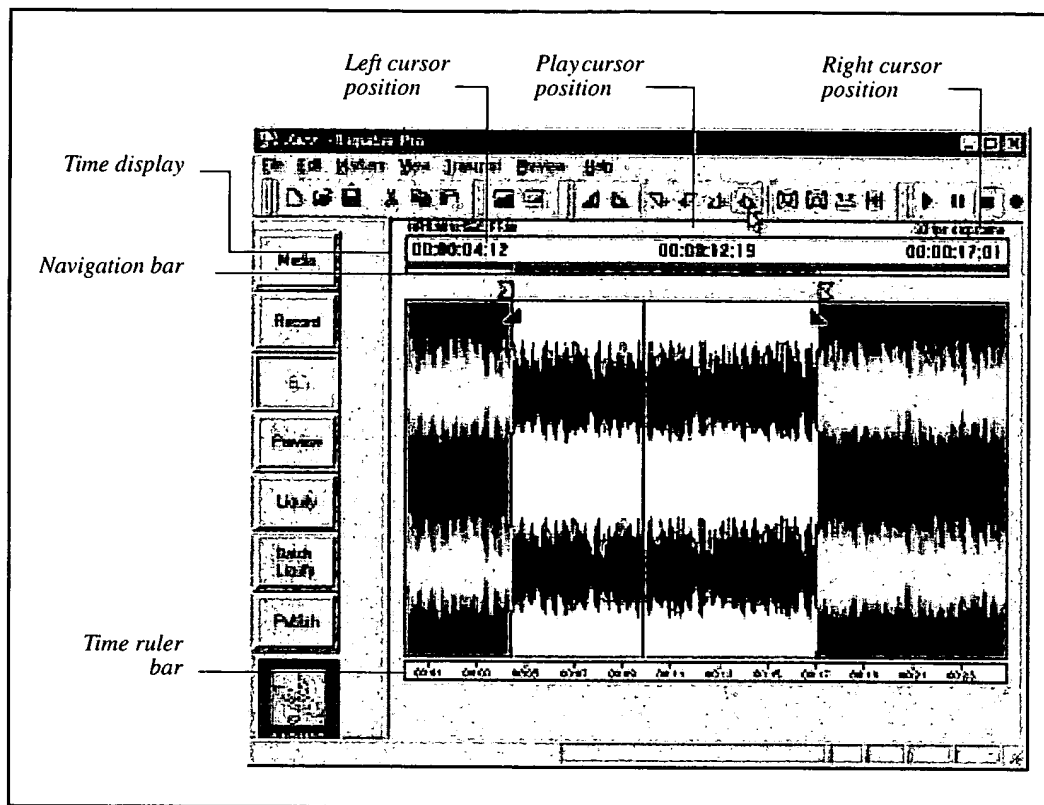
## Waveform Editor—Components

This section describes the components of the Waveform Editor.

- **Navigation bar**—Shows the portion of audio that is currently selected in reference to the total audio file. The colors displayed in the navigation bar indicate the portion of audio that is being viewed.
  - **Light green**—Represents the portion of audio selected in the Waveform Editor.
  - **Dark green**—Indicates right or left cursor is outside the current view.
  - **Gray**—Represents all audio currently displayed in the Waveform Editor.

The navigation bar is especially useful when zooming in on a passage of an audio file. It lets you compare the current view in perspective to the total audio.

- **Time display**—Shows time displayed in one of the following formats: Normal, SMPTE, SMPTE Subframes, or Samples.
  - **Play cursor position**—During playback, the time represents the location of the play cursor in the waveform. When playback is stopped, the time value represents the duration of the selected audio.
  - **Left cursor position**—Indicates the position of the left cursor in the selected time value.
  - **Right cursor position**—Indicates the position of the right cursor in the selected time value.
- **Time Ruler bar**—Shows a time scale for locating portions of audio when using the Zoom function. The time scale varies according to zoom level selected.

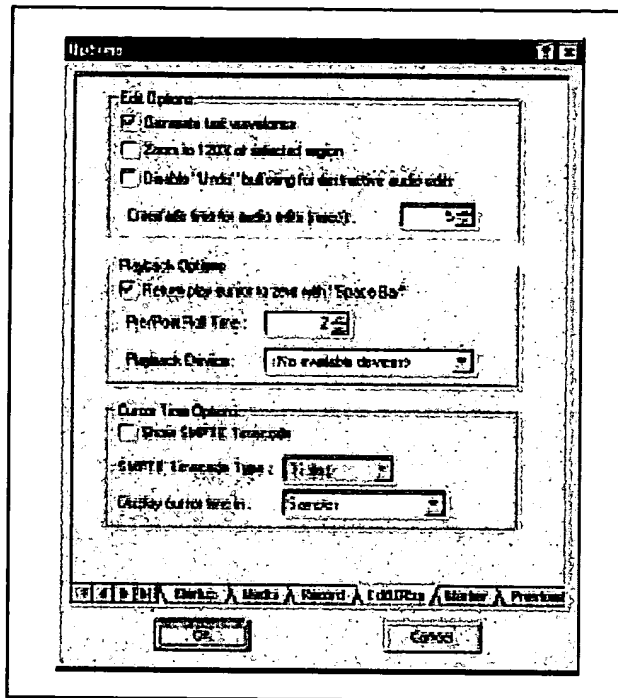


Waveform Editor—Components

## Edit Pane—User Options

Liquifier Pro provides a number of user options you can set to facilitate your work process. These options, which are set in the Options window, are described in *Chapter 16, Customizing Liquifier Pro*.





Options Window—Edit/Play Tab

Refer to Table 8–1 for a list of options that apply to the Edit pane.

Table 8–1: Edit Pane—User Options (Sheet 1 of 2)

To:	Go to:
Quickly display a waveform when loading an audio sound file into the Edit pane	“Customizing Edit Options” on page 16-23
Add an additional area of 10% to either end of the waveform when zooming in	“Customizing Edit Options” on page 16-23

**Table 8–1: Edit Pane—User Options (Sheet 2 of 2)**

Prevent Liquifier Pro from automatically creating back-ups of your audio edits	“Customizing Edit Options” on page 16-23
Specify the crossfades for cut and paste audio edits	“Customizing Edit Options” on page 16-23
Automatically return the play cursor to the left cursor in the Edit pane when the SPACE-BAR is pressed	“Customizing Playback Options” on page 16-25
Specify the number of seconds in which to audition material that precedes or follows an audio selection	“Customizing Playback Options” on page 16-25
Select the default sound card to use for playback	“Customizing Playback Options” on page 16-25
Display time code in SMPTE format	“Customizing Playback Options” on page 16-25
Automatically update the playing time when the song markers change	“Customizing Marker and Fade Options” on page 16-27
Apply the default fade in and fade out times when the markers are set	“Customizing Marker and Fade Options” on page 16-27
Set the default duration of a clip selected with the Automatic Clip Duration command	“Customizing Marker and Fade Options” on page 16-27
Set the default Clip Fade In and Clip Fade Out times,	“Customizing Marker and Fade Options” on page 16-27
Set the default Song Fade In and Song Fade Out times	“Customizing Marker and Fade Options” on page 16-27

## Workflow for Selecting Audio Images


This section describes the recommended workflow to select song and clip images in the Edit pane. Review these basic steps to familiarize yourself with the process for choosing clip and song images for encoding.

- 1 **Open the WAV file**—The first step in defining an audio image is to open the source file you want to use for the clip and song. The Liquifier Pro generates the waveform for the file and displays it in the Waveform Editor.
- 2 **Play back the audio**—You'll use the transport functions supplied in the Edit pane to play back the audio file, while keeping in mind passages of the audio you want to bookmark, modify, or select.
- 3 **Bookmark points of interest**—As you play back the audio, you'll insert tick marks in the file to mark points of interest or concern. These points might include highlights you want to include in a clip or song or distortions (clipping, clicks, or pops) you want to crop from the file.
- 4 **Define the audio image**—After bookmarking points of interest in the audio image, you are ready to select the in-point and out-point for the clip and song. You define these points using the left and right cursors supplied in the Waveform Editor.
- 5 **Select the audio image**—After defining the song and clip image, you are ready to select the final images intended for encoding. You'll select these points using the clip and song markers provided in the Waveform Editor.

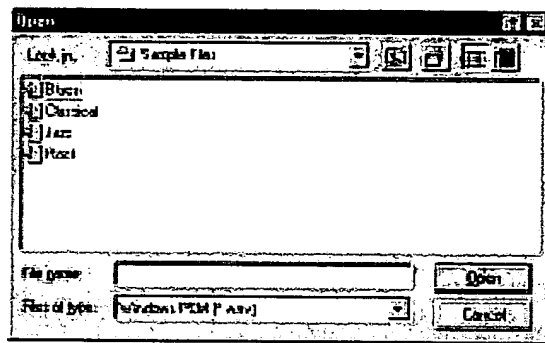
6	<b>Refine the audio selection</b> —You'll use various tools in the Edit pane to refine your audio selection. For example, you can nudge the cursors forward or backward in the audio file, frame by frame, to refine the start or end point of an audio image.	1 2 3 4
7	<b>Apply non-destructive fades to the audio image</b> —After you mark the final audio image, you'll need to apply fades to prevent audible clicks from occurring at the start or end of the image.	5 6 7
8	<b>Save the audio images</b> —You'll need to save the selections as a Liquifier Audio Workspace file (.law) so you can continue to work with it Liquifier Pro.	8 9 10
.....		11
	<b>Opening the Edit Pane</b>	12
	To open the Edit pane:	13
1	Start <b>Liquifier Pro</b> .	14
2	Do one of the following:	15
	• On the <b>View</b> menu, click <b>Edit</b> pane.	16
	• On the <b>Liquifier Pro</b> taskbar, click <b>Edit</b> .	17
	The Edit pane opens on your desktop.	18 19 20 21 22 23 24 25

## Opening Source Audio Files

To open a source audio file:

- 1 Open the **Edit** pane.
- 2 Do one of the following:
  - On the **File** menu, click **Open**.
  - On the **File** toolbar, click 

The Open window appears.



- 3 In the **Files of Type** list, do one of the following:
  - Select **Liquifier Audio Workspace (\*.law)** to open the WAV file associated with a Liquifier Audio Workspace.
  - Select **Windows PCM (\*.wav)** to open a WAV-format file.
- 4 In the **Look In** box, click the drive, folder, or Internet location that contains the file.
- 5 In the folder list, double-click folders until you open the folder that contains the file you want.

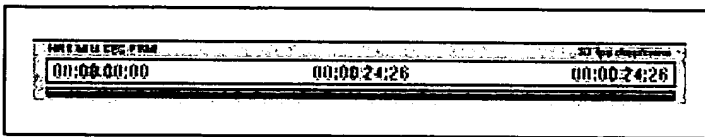
6 Double-click the file you want to open.

The Open window closes and the waveform generates in the Waveform Editor.

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## Selecting the Time Display Format

Before working with an audio image, you might want to choose the time format in which to display the left, right, and play cursor positions. You'll use the different time formats to position the start and end points of an audio image. The time format appears in the time display area of the Waveform Editor.



*Edit Pane—Time Display*

## Time Formats

The time display function lets you toggle among four different formats:

- **Normal**—Hours:minutes:seconds:milliseconds
- **Samples**—Displays the time as discrete audio samples. The amount of time represented by the sample time display depends on the sample rate of the source audio. For CD-quality audio, the sample rate is 44.1 kHz, which means that 44,100 discrete samples represent one second of audio.

- **SMPTE**—Hours:minutes:seconds:frames. Only displays when the Show SMPTE Time Code option is set in the Edit/Play tab of the Options window.
- **SMPTE subframe**—Hours:minutes:seconds:frames:subframes. Only displays when the Show SMPTE Time Code option is set in the Edit/Play tab of the Options window.

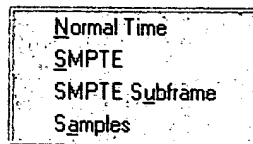
Note: For SMPTE and SMPTE time display formats, the number of frames in one second of audio is determined by the SMPTE Time Code Type option in the Edit/Play tab of the Options window.

### Selecting the Time Format

To select the time format:

- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to use.
- 3 Position the pointer in the **Time Display** area.
- 4 Click and hold down the right mouse button.

The Time Format pop-up menu appears.



Note: If you have not selected the Show SMPTE Time Code Type in the Options window, only the Normal Time and Samples options display.

- 5 Click the time format you want.
- 6 Release the mouse button.





The new time format appears in the Edit pane.

<b>Toggling Time Formats</b>	1
You can quickly change time formats on-the-fly by toggling among the different display formats.	2
	3
To toggle a time format:	4
1    Open the <b>Edit</b> pane.	5
2    Open the WAV file you want to use.	6
3    Position the pointer in the <b>Time Display</b> area.	7
4    Click the left mouse button.	8
The time format toggles to the next selection.	9
5    Release the mouse button.	10
The new time format appears in the Edit pane.	11
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<b>Playing Back Audio</b>	14
Before selecting clip and song images, you need to review the basic procedures for playing back audio in the Edit pane.	15
Throughout the audio selection process, you'll find it necessary to use the various transport controls to listen to portions of the audio and refine your selections.	16
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<b>Methods for Playing Back Audio</b>	19
Table 8–2 summarizes the different methods that are available for playing back audio. You can play an audio image at anytime while working in the Edit pane.	20
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Note: An empty cell indicates functionality is not available.

**Table 8–2: Edit Pane—Methods for Playing Back Audio**  
(Sheet 1 of 3)

To:	Click this command:	Click this button:	Press this key:
Play the audio in its entirety <sup>1</sup>	Transport> Play		SPACEBAR
Select a location to start audio playback		Position the mouse in the waveform and click the left mouse button.	
Play the audio from the selected location in the waveform	Transport> Play		SPACEBAR
Pause the audio playback at the current play cursor position	Transport> Pause		SPACEBAR
Stop the audio playback and return the play cursor to the start position	Transport> Stop		F3

**Table 8–2: Edit Pane—Methods for Playing Back Audio**  
(Sheet 2 of 3)

Play audio a specified number of seconds before the left cursor <sup>2</sup>	Transport> Pre-Roll Left		CTRL+F1
Play audio a specified number of seconds after the left cursor <sup>2</sup>	Transport> Post-Roll Left		CTRL+ SHIFT+F1
Play a short section of audio before and after the left cursor	Transport> Rehearse Left		
Play audio a specified number of seconds before the right cursor <sup>2</sup>	Transport> Pre-Roll Right		CTRL+F2
Play audio a specified number of seconds after the right cursor <sup>2</sup>	Transport> Post-Roll Right		CTRL+ SHIFT+F2
Play a short section of audio before and after the right cursor	Transport> Rehearse Right		

**Table 8–2: Edit Pane—Methods for Playing Back Audio**  
(Sheet 3 of 3)

Play audio for one second before and after the current selection	Transport> Cut Play		CTRL+F3
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<sup>1</sup> Spacebar functionality is controlled by the Return Play Cursor to Zero user option. This option appears on the Edit/Play tab of the Options window. When this option is selected, the play cursor returns to the beginning of the audio image when SPACEBAR is pressed. When this option is not selected, the play cursor pauses at the current position and does not return to zero.


<sup>2</sup> The number of seconds specified for pre-roll and post-roll operations is set in the Pre/Post Roll Time option. This option appears on the Edit/Play tab in the Options window.

### Basic Procedure for Playing Back Audio

To play back audio:

- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to use.
- 3 Do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click ► .
  - Press **SPACEBAR**.
- 4 As the file plays, keep in mind the following questions:
  - Are there any passages of interest I want to bookmark for the preview clip?
  - Are there any passages of interest I want to bookmark for the song?


• Are there any clicks, pops, or other distortions I want to bookmark for modification or deletion?	1
	2
The audio file plays in its entirety. A vertical line, called the play cursor, moves across the Waveform Editor indicating the portion of audio currently playing.	3
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<b>Viewing Audio Images</b>	7
Liquifier Pro provides a tool you might find useful when selecting or editing audio images. The zoom function lets you see a magnified view of the waveform for more precise editing, or a wider view of the waveform for a broader perspective.	8
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<b>Zooming In on an Audio Image</b>	12
Choose Zoom In to display the waveform in smaller time increments. This makes it easier to edit audio when you need a finer resolution.	13
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To zoom in on an audio image:	16
1 Open the <b>Edit</b> pane.	17
2 Open the WAV file you want to use.	18
3 Select a portion of the audio image to view using the cursors.	19
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Go to “Using Cursors to Define Audio Images” on page 8-32 for complete information.	21
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- 4 Do one of the following:
- On the **View** menu, click **Zoom In**.
  - On the **Zoom** toolbar, click .
  - Press **F5**.

### Zooming Out on an Audio Image

Choosing Zoom Out reverses the Zoom In operation by taking you back to the previous zoom level. You can zoom in on an image numerous times and then use Zoom Out to return to a previous zoom level. The Zoom Out option is only available after you have zoomed in on an image.

To zoom out on an audio image:

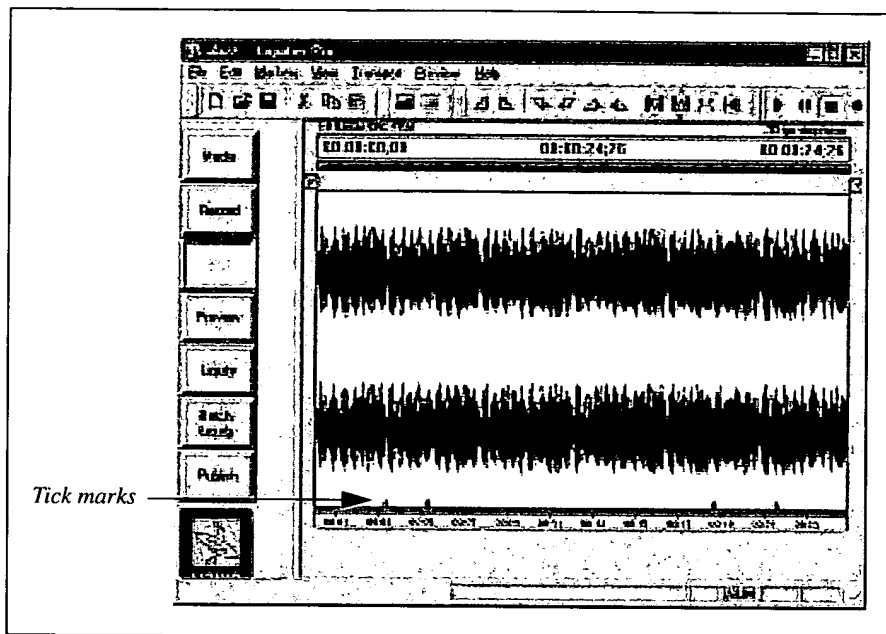
- Do one of the following:
- On the **View** menu, click **Zoom Out**.
  - On the **Zoom** toolbar, click .
  - Press **F6**.

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### Using Tick Marks to Bookmark Audio Images

As you play back audio, you'll insert tick marks in the file to mark passages of interest or concern. These passages might include highlights you want to include in a clip or song or distortions (clipping, clicks, or pops) you want to crop from the from the file.

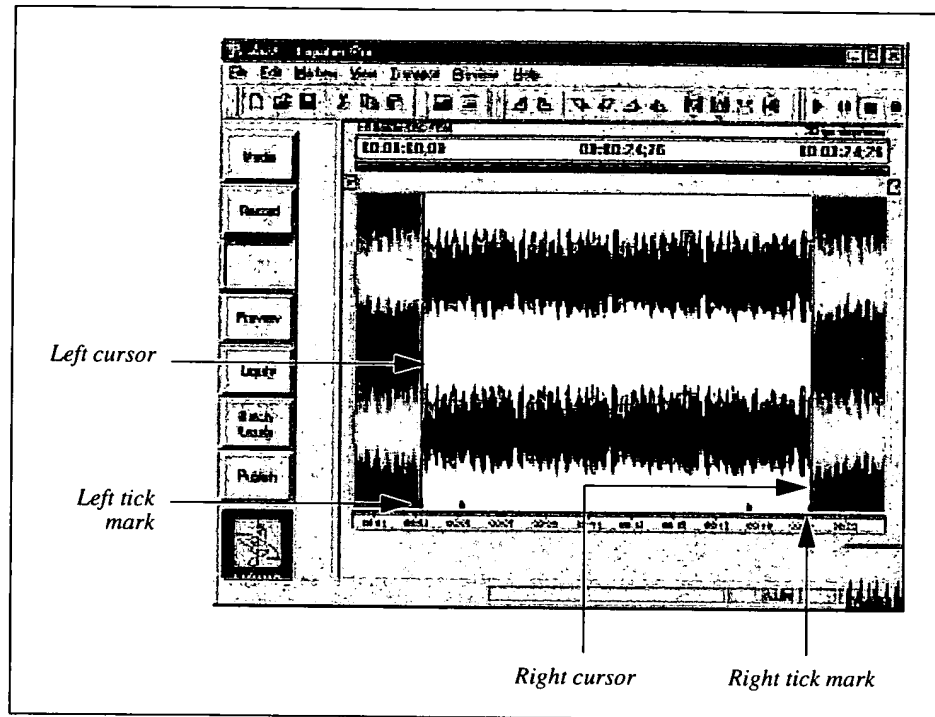
You can easily insert as many tick marks as you want in a WAV file. Simply press the + key on the numeric keypad during audio playback to insert the tick mark.



*Edit Pane—Tick Marks in WAV File*

When tick marks are inserted in an audio file, you can easily jump to a specific point in an audio file without the need to listen to the entire audio selection again.

Tick marks also let you mark the preliminary start and end points of the audio image you intend to use as a song or clip. Once the tick marks are in place, you can easily dock the left and right cursors to the ticks to mark the final in-point and out-point for an audio image.



*Edit Pane—Cursors Docked to Tick Marks*

This section explains how to perform the following tasks:

- **Insert the tick marks**—As you play back the audio file, you insert two or more tick marks in the file to mark points of interest or concern in the audio file. You might, for example, want to mark the start and end points of a passage you want to crop, or a passage you intend to use as a clip or song.

• <b>Dock the cursors to the tick marks</b> —If you decide to mark the preliminary start and end points for a song or clip, you can easily do so by docking the cursors to the tick marks. Alternatively, if you locate a passage of music you want to crop, you can dock the cursors to the tick marks and edit the passage at a later time.	1
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• <b>Remove the tick marks</b> —If you don't like the placement of the tick marks, you can delete them from the audio file and insert new ones. If you are satisfied with the placement of the tick marks, you don't need to complete this step.	6
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• <b>Move the cursors to different tick marks</b> —If you have docked the cursors to the tick marks, but are not satisfied with the start and end points you've selected, you can change them by moving the cursors to different tick marks.	10
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<b>Methods for Managing Tick Marks</b>	14
Table 8–1 lists the different methods you can use to insert and manipulate tick marks in the Waveform Editor. You'll want to review these methods before marking points of interest or concern in an audio file.	15
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Note: An empty cell indicates functionality is not available.	18
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**Table 8–1: Edit Pane—Methods for Managing Tick Marks  
(Sheet 1 of 2)**

To:	Click this command:	Press this key:
Add a tick mark at the play cursor position		+ on the numeric keypad
Add a tick mark at the left cursor position	Edit>Tick Marks>Add>Left Cursor	HOME
Add a tick mark at the right cursor position	Edit>Tick Marks>Add>Right Cursor	END
Add a tick mark at the left and right cursor positions	Edit>Tick Marks>Add>Both Cursors	F11
Move the left cursor to the next tick mark.	Edit>Tick Marks>Next Left	TAB
Move the left cursor to the previous tick mark	Edit>Tick Marks>Previous Left	CTRL+TAB
Move the right cursor to the next tick mark	Edit>Tick Marks>Next Right	SHIFT+TAB
Move the right cursor to the previous tick mark	Edit>Tick Marks>Previous Right	SHIFT+CTRL+TAB
Delete a tick mark at the play cursor position	Edit>Tick Marks>Remove>Play Cursor	– on the numeric keypad

**Table 8–1: Edit Pane—Methods for Managing Tick Marks**  
(Sheet 2 of 2)

Delete a tick mark at the left cursor position	Edit>Tick Marks>Remove>Left Cursor	CTRL+HOME
Delete a tick mark at the right cursor position	Edit>Tick Marks>Remove>Right Cursor	CTRL+END
Delete the tick marks at the left and right cursor positions	Edit>Tick Marks>Remove>Both Cursors	CTRL+F11
Delete the tick marks between the left and right cursor positions	Edit>Tick Marks>Remove>Between Cursors	SHIFT+CTRL+F11
Delete all tick marks	Edit>Tick Marks>Remove>All Tick Marks	

## Inserting Tick Marks

To insert tick marks:

- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to use.  
Go to “Opening Source Audio Files” on page 8-14 for complete information.
- 3 Do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click ► .
  - Press the **SPACEBAR**.
- 4 Do the following:
  - A) To insert a tick mark, press +.
  - B) To insert additional tick marks, press + repeatedly.

## Docking Cursors to Tick Marks

After the tick marks are in place, you can dock the cursors to them. Docking the cursors to the tick marks sets the preliminary in-point and out-point for passages you may want to select or crop.

If you don't want to dock the cursors to the tick marks, but prefer to manually insert cursors irrespective of the tick marks, go to the “Using Cursors to Define Audio Images” on page 8-32 for complete information.

To dock a cursor to a tick mark:	1
1 Open the <b>Edit</b> pane.	2
2 Open the WAV file you want to use.	3
Go to “Opening Source Audio Files” on page 8-14 for complete information.	4
3 Insert the tick marks in the audio file.	5
Go to “Inserting Tick Marks” on page 8-28 for complete information.	6
4 Do one of the following:	7
• To dock the left cursor to the next tick mark, click <b>Tick Marks</b> and then choose <b>Next Left</b> on the <b>Edit</b> menu. Alternatively, press <b>TAB</b> .	8
• To dock the left cursor to the previous tick mark, click <b>Tick Marks</b> and then choose <b>Previous Left</b> on the <b>Edit</b> menu. Alternatively, press <b>SHIFT+TAB</b> .	9
• To dock the right cursor to the next tick mark, click <b>Tick Marks</b> and then choose <b>Next Right</b> on the <b>Edit</b> menu. Alternatively, press <b>CTRL+TAB</b> .	10
• To dock the right cursor to the previous tick mark, click <b>Tick Marks</b> and then choose <b>Previous Right</b> on the <b>Edit</b> menu. Alternatively, press <b>CTRL+SHIFT+TAB</b> .	11
5 To play back the audio between tick marks, do one of the following:	12
• On the <b>Transport</b> menu, click <b>Play</b> .	13
• On the <b>Transport</b> toolbar, click ► .	14
• Press the <b>SPACEBAR</b> .	15
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## Inserting Tick Marks at the Cursor Positions

To insert tick marks at the cursor positions:

- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to use.  
Go to “Opening Source Audio Files” on page 8-14 for complete information.
- 3 Do one of the following:
  - To insert a tick mark to the left cursor, click **Tick Marks** and then choose **Add>Left Cursor** on the **Edit** menu. Alternatively, press **HOME**.
  - To insert a tick mark to the right cursor, click **Tick Marks** and then choose **Add>Right Cursor** on the **Edit** menu. Alternatively, press **END**.
  - To insert tick marks to both cursors, click **Tick Marks** and then choose **Both Cursors** on the **Edit** menu. Alternatively, press **F11**.
  - To insert a tick mark to the play cursor, click **Tick Marks** and then choose **Add>Play Cursor** on the **Edit** menu. Alternatively, press **+**.
- 4 To play back the audio between the tick marks, do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click **▶**.
  - Press the **SPACEBAR**.

## Clearing Tick Marks

If you are dissatisfied with the location of the tick marks, you can remove them. Removing a tick mark does not affect the WAV file.

To clear tick marks:

- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to use.  
Go to “Opening Source Audio Files” on page 8-14 for complete information.
- 3 Do one of the following:
  - To remove the tick mark from the left cursor, click **Tick Marks** and then choose **Remove>Left Cursor** on the **Edit** menu. Alternatively, press **CTRL+HOME**.
  - To remove the tick mark from the right cursor, click **Tick Marks** and then choose **Remove>Right Cursor** on the **Edit** menu. Alternatively, press **CTRL+END**.
  - To remove the tick marks from both cursors, click **Tick Marks** and then choose **Remove>Both Cursors** on the **Edit** menu. Alternatively, press **CTRL+F11**.
  - To remove the tick marks in between the left and right cursor, click **Tick Marks** and then choose **Remove>Between Cursors** on the **Edit** menu. Alternatively, press **SHIFT+CTRL+F11**.

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- To remove the tick mark from the play cursor, click **Tick Marks** and then choose **Remove>Play Cursor** on the **Edit** menu. Alternatively, press -.
- To remove all tick marks in the audio file, click **Tick Marks** and then choose **Remove>All Tick Marks** on the **Edit** menu.

**Saving Tick Marks**

Tick mark positions are automatically saved in a Liquifier Audio Workspace file when you choose the Save command from the File menu. No separate procedure is required to save tick marks.

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**Using Cursors to Define Audio Images**

This section explains how to use the left and right cursors to define the in-point and out-point for the clip and song. Defining the clip and song images is the next step before marking the final audio images you intend to encode.

**Methods for Managing Cursors**

Table 8–4 lists the different methods you can use to insert and manipulate cursors in the Waveform Editor. You’ll want to review these methods before defining an audio image.

Note: An empty cell indicates functionality is not available.

**Table 8-4: Edit Pane—Methods for Managing Cursors**  
(Sheet 1 of 2)

<b>To:</b>	<b>Do this:</b>
Drop the play cursor in the Waveform Editor	Position the pointer in the waveform and click the left mouse button
Grab and drag the left cursor	Position the pointer in the left side of the waveform, press SHIFT, and click the left mouse button
Grab and drag the right cursor	Position the pointer in the right side of the waveform, press SHIFT, and click the left mouse button
Anchor the left cursor	Grab the left cursor, drag it into position, and release the left mouse button.
Anchor the right cursor	Grab the right cursor, drag it into position, and release the left mouse button.
Set the clip-in marker during playback	Click the left mouse button
Set the clip-out marker during playback	Press SHIFT
Move the start point to the current selection	Select near the left edge of the waveform, press SHIFT, and click the left mouse button.
Move the end point to the current selection	Select near the right edge of the waveform, press SHIFT, and click the left mouse button.



**Table 8–4: Edit Pane—Methods for Managing Cursors**  
(Sheet 2 of 2)

Nudge the in-point one pixel to the left <sup>1</sup>	Press LEFT ARROW
Nudge the in-point one pixel to the right <sup>1</sup>	Press RIGHT ARROW
Nudge the out-point one pixel to the left <sup>1</sup>	Press SHIFT+ LEFT ARROW
Nudge the out-point one pixel to the right <sup>1</sup>	Press SHIFT+ RIGHT ARROW

<sup>1</sup> Nudging moves a cursor pixel-by-pixel. The length of the audio and the zoom level determine the time represented by the pixel. For example, when you are zoomed in using sample resolution, nudging moves the cursor by sample. Alternatively, when viewing the entire source audio, nudging moves the cursor by several hundred milliseconds or more.

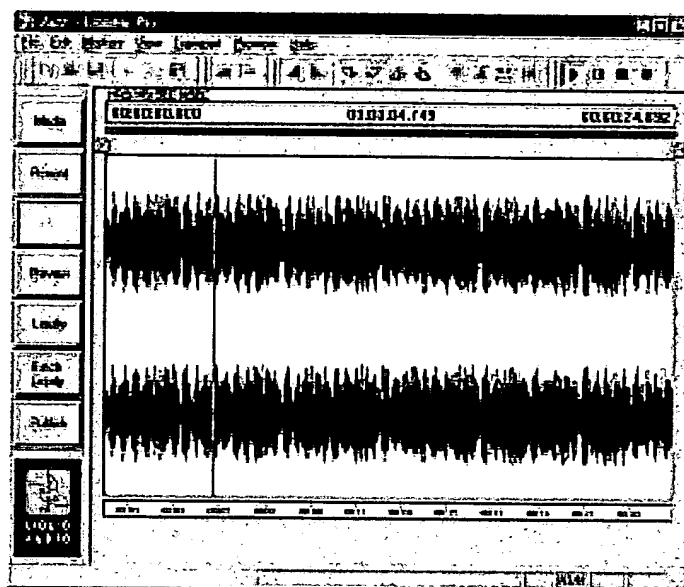
### Defining the In-point for the Audio Image

This section explains how to choose the in-point, or starting position, for the song or clip image.

To define the in-point for the audio image:

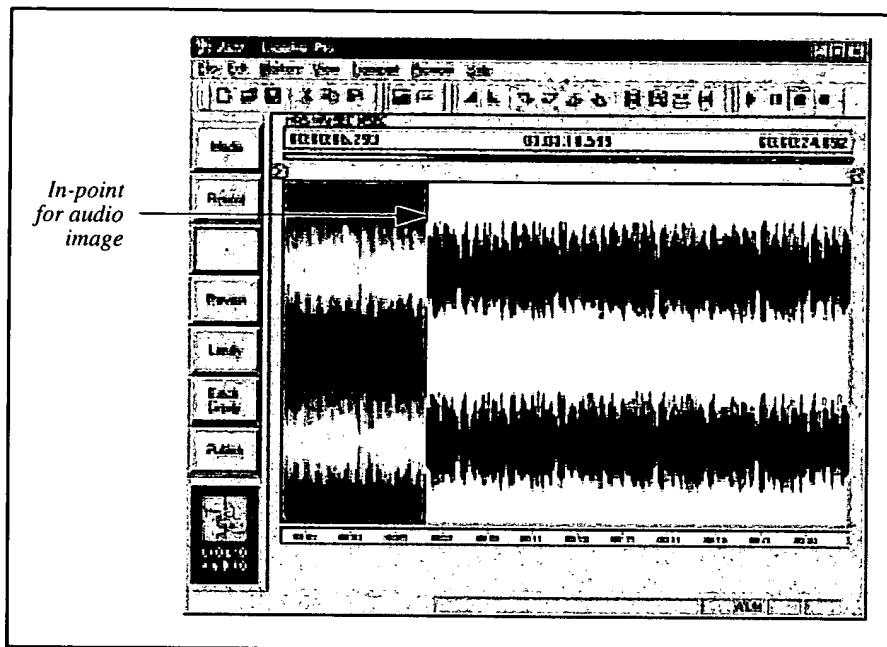
- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to use.
- 3 Do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click ► .
  - Press the **SPACEBAR**.

The play cursor appears in the Waveform Editor. It continues to move across the waveform as the WAV files plays until you stop or pause it using the Transport control buttons.



- 4 To pause the play cursor at the position you want to designate as the in-point, do one of the following:
  - On the **Transport** menu, click **Pause**.
  - On the **Transport** toolbar, click **II**.
- 5 Observe the position of the play cursor by noting the time display.

- 6 To select the in-point for the audio image, do the following:
- A) Position the pointer at the play cursor in the Waveform Editor.
  - B) Press and hold down the left mouse button.  
The left cursor appears.
  - C) Press **SHIFT** as you continue to hold down the left mouse button.  
A portion of the Waveform Editor appears gray and another portion appears clear. The gray area represents the portion of the audio you do not want to select. The clear area represents the portion of the audio you do want to select.
  - D) Drag the pointer to the location you want for the start of the audio image. Refer to the time display to select the exact position.  
The left cursor, the line separating the gray area from the clear area, designates the start of the audio image.
  - E) Release the left mouse button  
The in-point for the audio image is selected.



- 6 Go to “Defining the Out-point for the Audio Image” on page 8-37.

### Defining the Out-point for the Audio Image

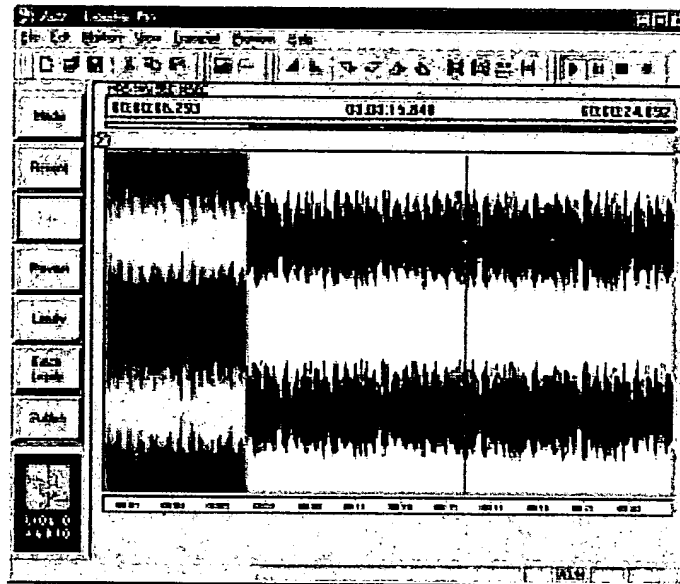
Follow this procedure to choose the out-point, or ending position, for a song or clip. You can define the end point only after defining the start point for an audio image.

To define the out-point for the audio image:

- 1 Do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click **▶**.
  - Press the **SPACEBAR**.

The play cursor starts at the in-point and then moves

across the Waveform Editor until you stop or pause it using the Transport control buttons.



- 2 To pause the play cursor at the position you want to designate as the out-point, do one of the following:
  - On the **Transport** menu, click **Pause**.
  - On the **Transport** toolbar, click **II**.
- 3 Observe the position of the play cursor by noting the time display.

Tip: You might want to insert a tick mark at this point.
- 4 To select the out-point for the audio image, do the following:
  - A) Position the pointer at the play cursor in the Waveform Editor.

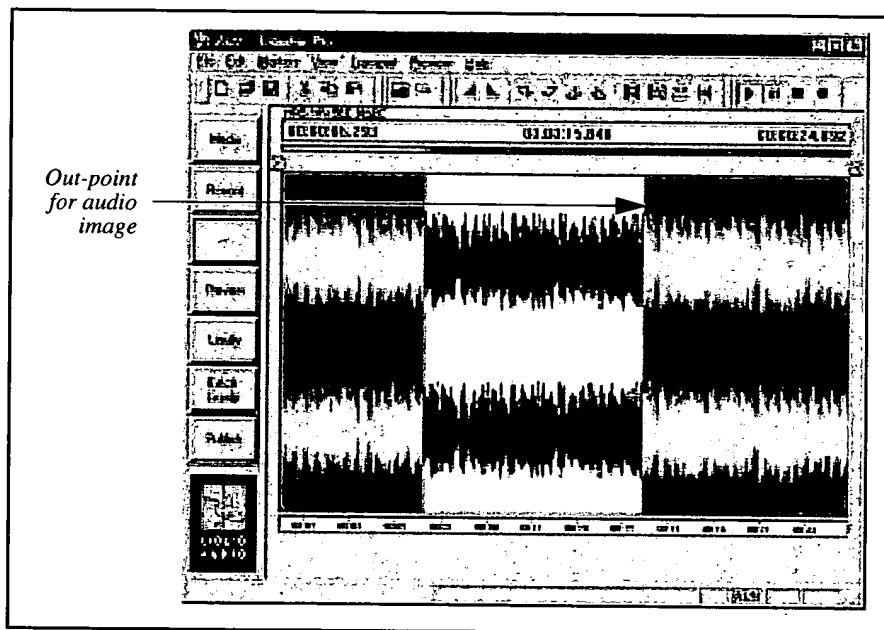
Note: Make sure you position the pointer after the in-point already selected for the audio image.

- B) Press and hold down the left mouse button.

The right cursor appears.

- C) Press **SHIFT** as you continue to hold down the left mouse button.

A portion of the Waveform Editor appears gray and another portion appears clear. The gray area represents the portion of the audio you do not want to select. The clear area represents the portion of the audio you do want to select.



D) Drag the pointer to the location you want for the end of the audio image. Refer to the time display to select the exact position.

The right cursor, the line separating the clear area from the gray area, indicates the end of the song.

E) Release **SHIFT** and the left mouse button

The out-point for the audio image is selected.

### **Saving Cursors**

Cursor positions are automatically saved in a Liquifier Audio Workspace file when you choose the Save command from the File menu. No separate procedure is required to save cursors.

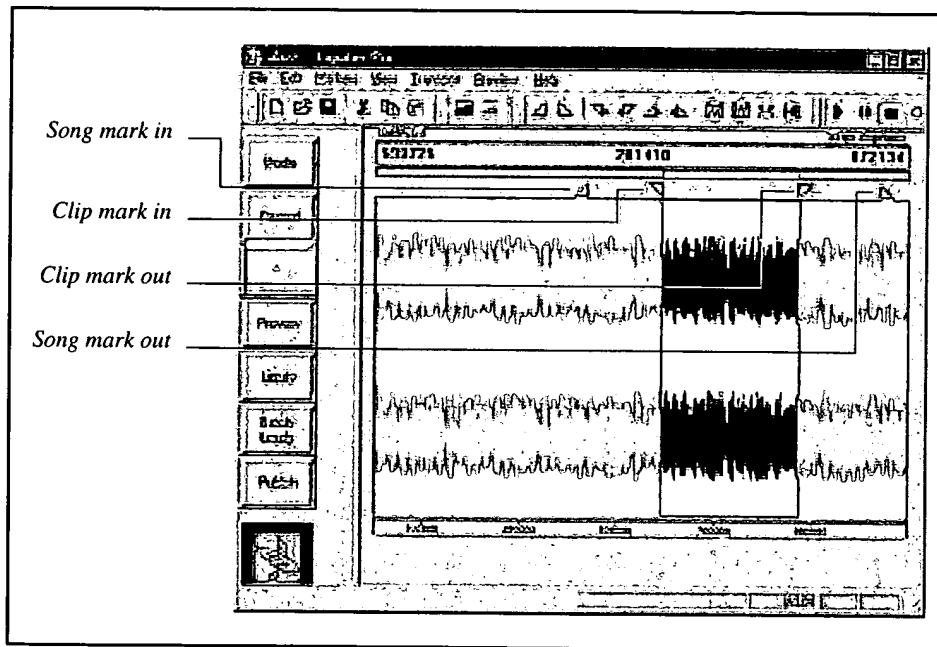
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### **Using Markers to Select the Final Audio Image**

Once you are satisfied with the audio image, you can mark the final in and out-points. Marking the in-point and out-point for a song or clip is the last step in selecting the audio image for encoding.

Marking an audio image at the start and end points applies small, yellow markers at the left and right cursors. The type of marker that appears in the audio image differs depending on whether you mark a song or a clip.

When you mark an audio image in a WAV file, you have the option to mark the song-only or both the clip and the song in the same file. If you intend to offer a free preview, as well as a song for download and purchase over the Internet, you'll need to select both the clip and song from the same WAV file.



*Edit Pane—Song and Clip Markers Inserted in WAV File*

## Methods for Managing Markers







Table 8–3 lists the different methods you can use to insert and manipulate markers in the Waveform Editor. You'll want to review these methods before marking the final in-point and out-point for an audio image.

Note: An empty cell indicates functionality is not available.




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**Table 8-3: Edit Pane—Edit Pane—Methods for Managing Markers (Sheet 1 of 2)**

To:	Click this command:	Click this button:	Press this key:
Set the beginning of the clip within the audio	Markers> Clip Mark In		F9
Set the end of the clip within the audio	Markers> Clip Mark Out		SHIFT+F9
Set the beginning of the song within the audio	Markers> Song Mark In		F10
Set the end of the song within the audio	Markers> Song Mark Out		SHIFT+F10
Move the play selection to the clip markers	Markers> Select Clip		CTRL+F9
Move the play selection to the song markers	Markers> Select Song		CTRL+F10


**Table 8-3: Edit Pane—Edit Pane—Methods for Managing Markers (Sheet 2 of 2)**


Set the clip mark-in at the left cursor position and the clip mark-out a specified number of seconds after the clip mark-in	Markers> Auto Clip Out Marker		
Reset all mark-in and mark-out positions	Markers> Clear All Marks		
Reset the clip mark-in and mark-out positions to the song mark-in and mark-out positions	Markers> Clear Clip Marks		CTRL+ SHIFT+F9
Reset the song mark-in and mark-out positions to the start and end of the audio	Markers> Clear Song Marks		CTRL+ SHIFT+F10


## Marking Song Images




This section explains how to mark the in-point and out-point for a song.

To mark the song image:


- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to use.
- 3 Do one of the following:
  - Insert tick marks in the WAV file. Dock the left and right cursors to the tick marks to designate the in-point and out-point, respectively, for the song.
  - Position the left and right cursors in the WAV file to designate the in-point and out-point, respectively, for the song.
- 4 To mark the in-point, do one of the following:
  - On the **Markers** menu, click **Song Mark In**.
  - On the **Markers** toolbar, click .

The yellow marker docks to the selected point on the Waveform Editor.
- 5 To mark the out-point, do one of the following:
  - On the **Markers** menu, click **Song Mark Out**.
  - On the **Markers** toolbar, click .


The yellow marker docks to the selected point on the Waveform Editor.
- 6 To audition the song selection, do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** bar, click .
  - Press the **SPACEBAR**.

7	To mark the final song image, do one of the following:	1
	• On the <b>Markers</b> menu, click <b>Select Song</b> .	2
	• On the <b>Markers</b> toolbar, click  .	3
	<b>Marking Clip Images</b>	4
	This section explains how to mark the in-point and out-point for a clip.	5
	To mark the clip image:	6
		7
1	Open the <b>Edit</b> pane.	8
2	Open the WAV file you want to use.	9
3	Do one of the following:	10
	• Insert tick marks in the WAV file. Dock the left and right cursors to the tick marks to designate the in-point and out-point, respectively, for the clip.	11
	• Position the left and right cursors in the WAV file to designate the in-point and out-point, respectively, for the clip.	12
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		14
		15
4	To mark the in-point, do one of the following:	16
	• On the <b>Markers</b> menu, click <b>Clip Mark In</b> .	17
	• On the <b>Markers</b> toolbar, click  .	18
	The yellow marker docks to the selected point on the Waveform Editor.	19
		20
5	To mark the out-point, do one of the following:	21
	• On the <b>Markers</b> menu, click <b>Clip Mark Out</b> .	22
	• On the <b>Markers</b> toolbar, click  .	23
	The yellow marker docks to the selected point on the Waveform Editor.	24
		25

6 To audition the clip selection, do one of the following:

- On the **Transport** menu, click **Play**.
- On the **Transport** bar, click .
- Press the **SPACEBAR**.

7 To mark the final clip image, do one of the following:


- On the **Markers** menu, click **Select Clip**.
- On the **Markers** toolbar, click .

### Automatically Marking the Clip out-point

The Auto Clip Out Marker function sets the clip mark-in at the left cursor position and the clip mark-out a specified number of seconds after the clip mark-in.

The duration of the clip is defined in the Options window. To set the duration, go to “Customizing Marker and Fade Options” on page 16-27 in *Chapter 16, Customizing Liquifier Pro*, for additional information.

To automatically mark the clip out-point:

- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to use.
- 3 Position the left cursor in the WAV file to designate the in-point for the clip.
- 4 On the **Markers** toolbar, click .

The clip-out marker appears in the Waveform Editor the specified number of seconds after the clip-in marker.

## Clearing Clip Markers

The Clear Clip command resets the clip mark-in and mark-out positions to the song mark-in and mark-out positions. Clearing markers does not affect the WAV file.

To clear clip markers:

- On the **Markers** menu, click **Clear Clip Marks**.

## Clearing Song Markers

The Clear Song Markers command resets the song mark-in and mark-out positions to the start and end of the audio. Clearing markers does not affect the WAV file.

To clear song markers:

- On the **Markers** menu, click **Clear Song Marks**.

## Clearing All Markers

If you want to start over, you can easily clear all song and clip markers in the Waveform Display. Clearing markers does not affect the WAV file.

To clear all markers:

- On the **Markers** menu, click **Clear All Marks**.

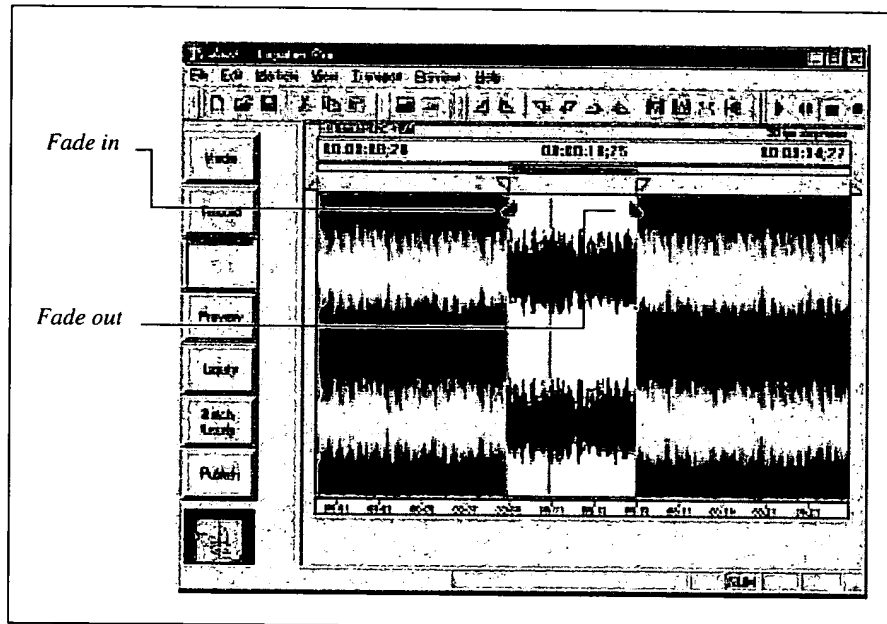
## Saving Markers

Marker positions are automatically saved in a Liquifier Audio Workspace file when you choose the Save command from the File menu. No separate procedure is required to save markers.

## Applying Fades to Audio Images

Liquifier Pro enables you to insert non-destructive fades in audio image to remove the audible clicks and pops that can occur at the start and end of a song or clip.

The fades enhance the listening experience for the end user by removing unwanted noise from the start and end of a Liquid Track as it plays in the Liquid Music Player.



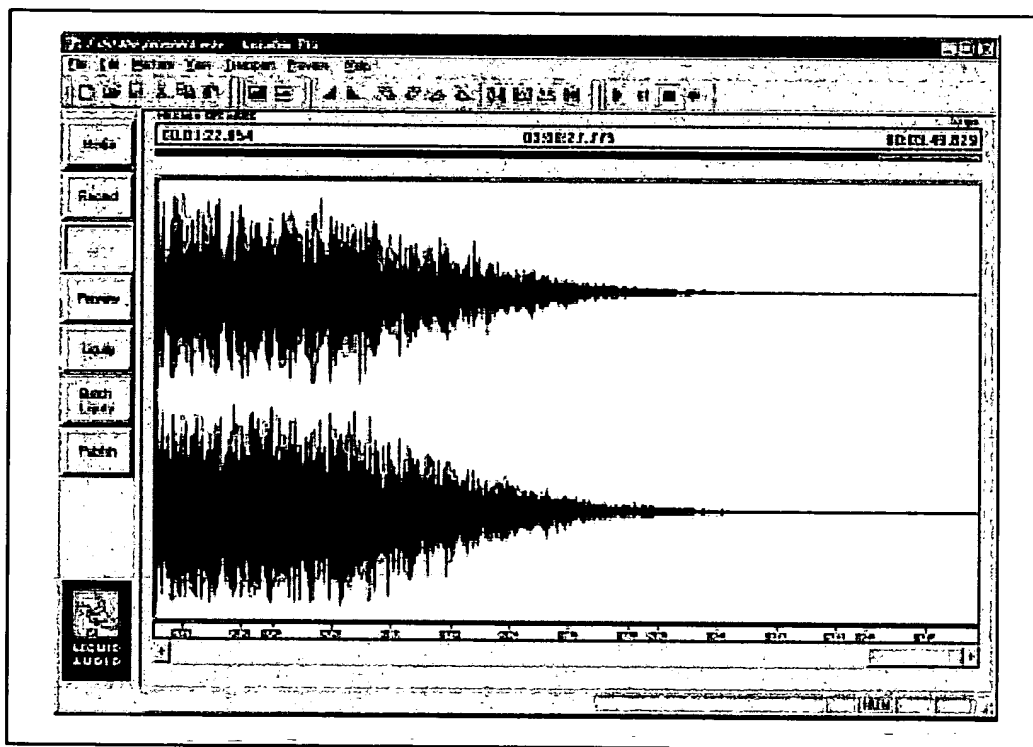
*Edit Pane—Fades Inserted in WAV File*

## Fade Lengths

By default, Liquifier Pro provides the following fade lengths:

- **Song fade in**—01.000 seconds
- **Song fade out**—02.000 seconds
- **Clip fade in**—04.500 seconds
- **Clip fade out**—04.500 seconds

You can use these settings, as is, or customize for your own needs. Go to “Customizing Marker and Fade Options” on page 16-27 in *Chapter 16, Customizing Liquifier Pro* for more information.



*Edit Pane—Example 30 Second Fade Out*





## Methods for Managing Fades

Table 8–6 lists the different methods you can use to insert and manipulate fades in the Waveform Editor. You’ll want to review these methods before applying fades to audio images.

Note: An empty cell indicates functionality is not available.

**Table 8–6: Edit Pane—Methods for Managing Fades**

To:	Click this command:	Click this button:	Press this key:
Attach a non-destructive fade-in to the selected image	Markers> Fade In		F7
Attach a non-destructive fade-out to the image	Markers> Fade Out		F8
Remove a fade-in from an image	Markers> Clear Fade In		SHIFT+F7
Remove a fade-out from an image	Markers> Clear Fade Out		SHIFT+F8
Set the fade parameters.	Markers> Set Fade Lengths		CTRL+F7

## Applying Fades


You can apply fades to a song or a clip image; however, the in and out-points must have already been marked in the image.

To apply fades:


- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to use.
- 3 Mark the in-point and out-point for the final audio image.

Go to “Using Markers to Select the Final Audio Image” on page 8-40 for complete information.

Note: If both the song and clip image are marked in the Waveform Editor. Fades are applied to the image marked at the left and right cursors.

- 4 To apply a fade in, do one of the following:
  - On the **Markers** menu, click **Fade In**.
  - On the **Markers** menu, click .

The green fade docks to the selected point on the Waveform Editor.

- 5 To apply a fade out, do one of the following:
  - On the **Markers** menu, click **Fade Out**.
  - On the **Markers** menu, click .

The green fade docks to the selected point on the Waveform Editor.

6 To audition the selection, do one of the following:

- On the **Transport** menu, click **Play**.
- On the **Transport** bar, click ►.
- Press the **SPACEBAR**.

Note: Fades only play back when both cursors are located at clip or song markers. The fade markers appear in the Waveform Editor when they are enabled for playback. Use the Select Clip or Select Song buttons on the toolbar to select the clip or song image.

### Clearing Fades

If you don't like the fades, you can remove them, reset the fade lengths, and then reapply new fades.

To clear the fades:

1 To clear the Fade In marker, do one of the following:

- Click **Clear Fade In** on the **Markers** menu.
- Click the **Fade In** marker and press **CTRL+SHIFT**.

2 To clear the Fade Out marker, do one of the following:

- Click **Clear Fade Out** on the **Markers** menu.
- Click the **Fade Out** marker and press **CTRL+SHIFT**.

### Saving Fades

Fades are automatically saved in a Liquifier Audio Workspace file when you choose the Save command from the File menu. No separate procedure is required to save fades.

.....	1
Closing the Edit Pane	2
To close the Edit pane:	3
► On the <b>Liquifier Pro taskbar</b> , click a workspace pane button.	4
The Edit pane closes and the workspace pane you selected opens on your desktop.	5
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## *Editing Audio*

This chapter explains how to use the Edit Pane to modify source audio by copying, cropping, or deleting selected passages from a file.

Although most users will have completed the mastering of their music using professional audio equipment, you may have a need to perform some minor edits to the audio images you intend to encode. The Copy, Cut, Paste, and Delete commands provide these functions.




### .....

#### Methods for Editing Audio Images

Table 9–1 lists the different methods you can use to edit audio images. You'll want to review these methods before editing clip or song images in the Edit pane.

Note: An empty cell indicates functionality is not available.

**Table 9-1: Edit Pane—Methods for Editing Audio Images  
(Sheet 1 of 2)**

To:	Click this command:	Click this button:	Press this key:
Reverse the last action	Edit>Undo		CTRL+Z
Restore the last action	Edit>Redo		CTRL+Y
Select the entire audio file	Edit>Select All		CTRL+A
Copy the selected audio or text to the Clipboard <sup>1</sup>	Edit>Copy		CTRL+C
Cut the selected audio to the Clipboard <sup>1</sup>	Edit>Cut		CTRL+X
Paste the selected audio from the Clipboard to the current cursor position <sup>1</sup>	Edit>Paste		CTRL+V
Delete the selected audio	Edit>Delete		DEL

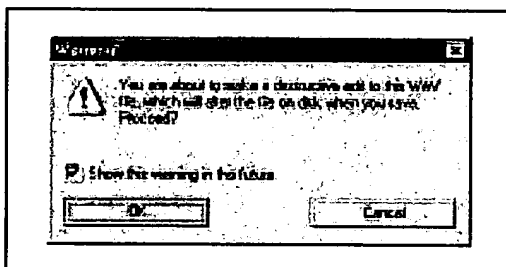
**Table 9-1: Edit Pane—Methods for Editing Audio Images**  
(Sheet 2 of 2)

Delete all audio outside the current selection	Edit> Crop		
--	---------------	--	--

<sup>1</sup> Due to limitations of the Clipboard, you can cut, copy, or paste only 90 seconds of audio with any given editing operation.

## About Destructive Edits

Any edits you make to an audio image are destructive and will modify the source file when saved to disk. When you perform a destructive edit, Liquifier Pro displays a warning message requiring you to confirm the operation.

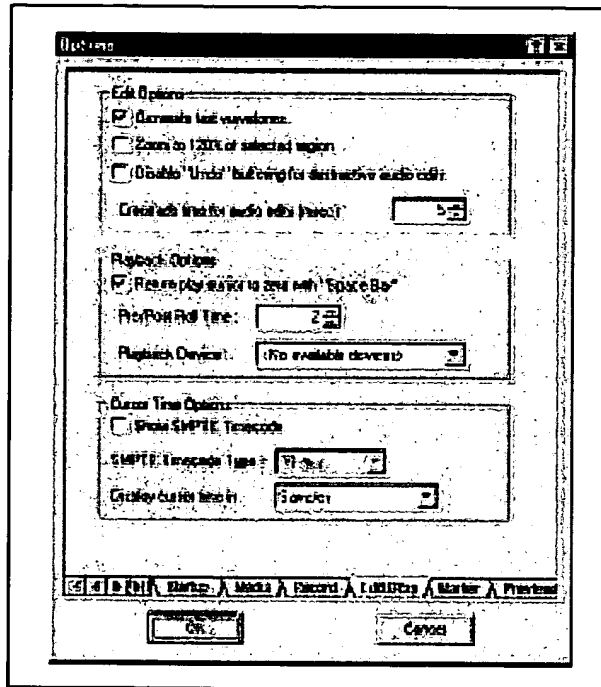


*Edit Pane—Destructive Edit Warning*

By default, all edits are buffered so you can undo multiple levels of destructive editing. Buffering editing operations is time-consuming and uses a lot of disk space on your hard drive.

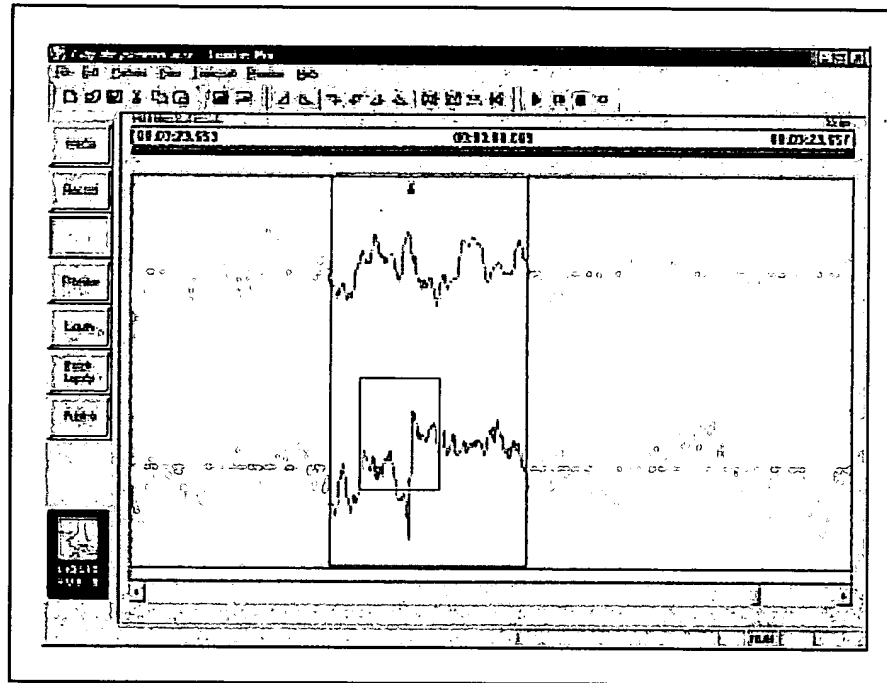


1 If you are certain of the edits you want to make, you might  
2 want to disable this function. Selecting the **Disable Undo**  
3 **Buffering for Destructive Audio Edits** option in the Edit/  
4 Play tab of the Options window disables this function.



Options Window—Edit/Play Tab

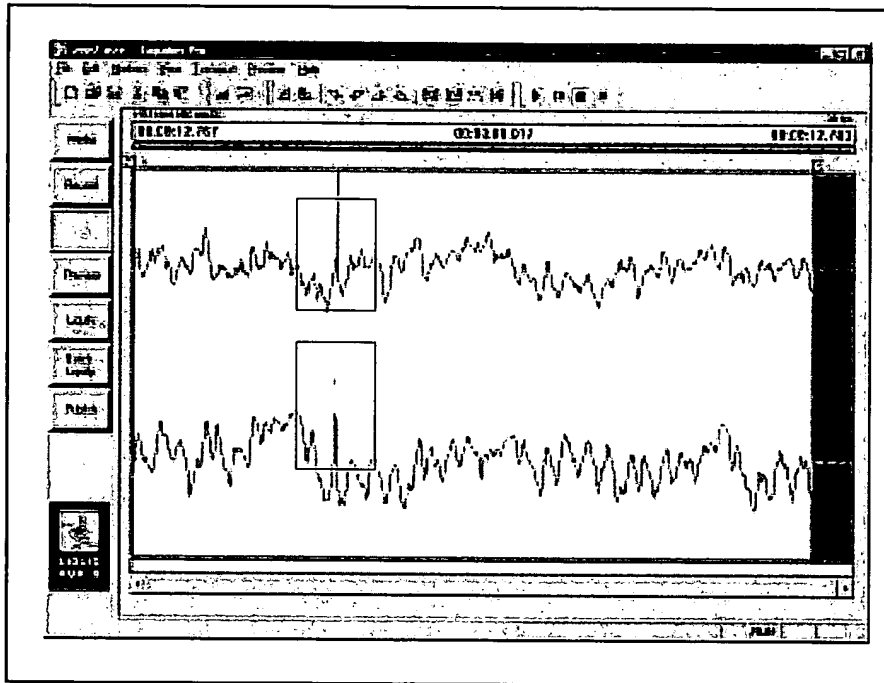
.....	1
Crossfades	2
Whenever you edit an portion of audio in a WAV file, Liquifier Pro automatically applies a crossfade at the edit. The crossfade prevents audible click and pops from occurring due to discontinuities in the waveform.	3 4 5 6
By default, the crossfade is set to 5 milliseconds (msec). You can change this setting to suit your editing needs. Go to “Customizing Marker and Fade Options” on page 16-27 in <i>Chapter 16, Customizing Liquifier Pro</i> for additional information.	7 8 9 10
.....	11
Clicks, Pops, and Clipping	12
This section presents examples of three type of distortions that might arise in an audio file: clicks, pops, and clipping. To better view these distortions, use the Zoom function in the Zoom toolbar. Go to “Viewing Audio Images” on page 8-21 for complete information on using Zoom.	13 14 15 16
Once you identify a distortion, you have the option to edit it using the tools supplied in the Edit pane.	17 18
<b>Clicks</b>	19
A click occurs whenever a cut is made in an audio file and crossfades have not been applied. It appears as a discontinuity in the waveform in which the signal is mismatched at the cuts.	20 21 22 23
Liquifier Pro automatically applies a crossfade at the edit. The crossfade prevents audible click and pops from occurring due to discontinuities in the waveform.	24 25



*Edit Pane—WAV File with Click*

## Pops

A pop is an artifact from the signal path that adds high-frequency distortion to the audio. A pop appears as a spike in the waveform. It can be caused by such things as a loose cable connection or a clocking problem on the digital inputs during recording.

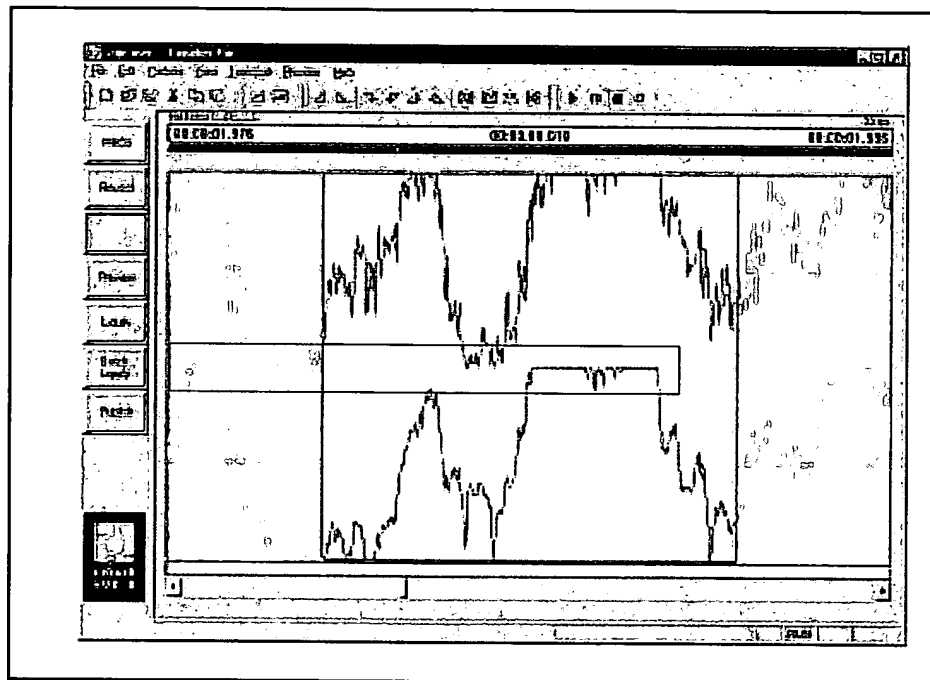


*Edit Pane—WAV File with Pops*

## Clipping

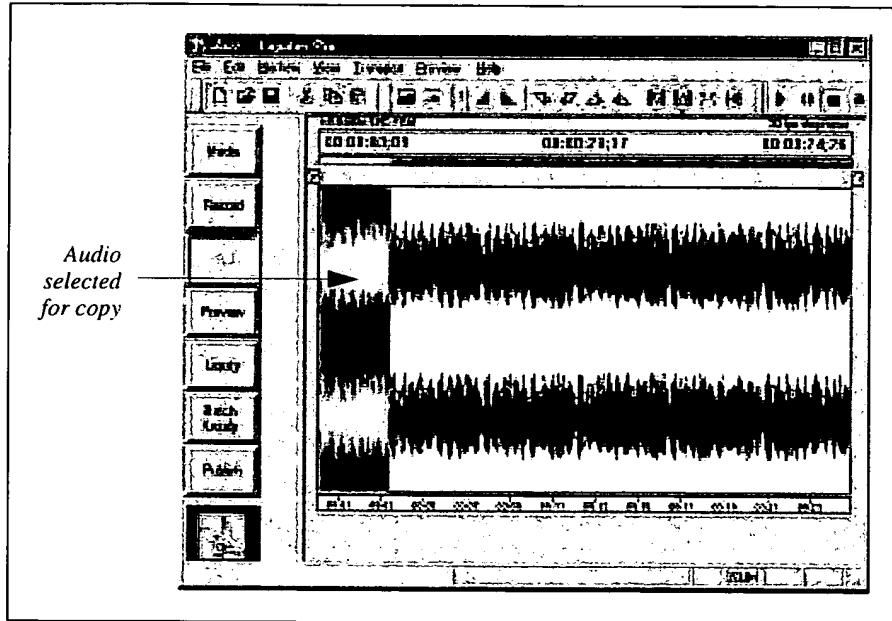
Clipping occurs when the input level during a record operation is too high. It is easy problem to create by amplifying the audio input too much.



Clipping, which appears as a horizontal line in the waveform, adds high frequency content around the point of amplification.

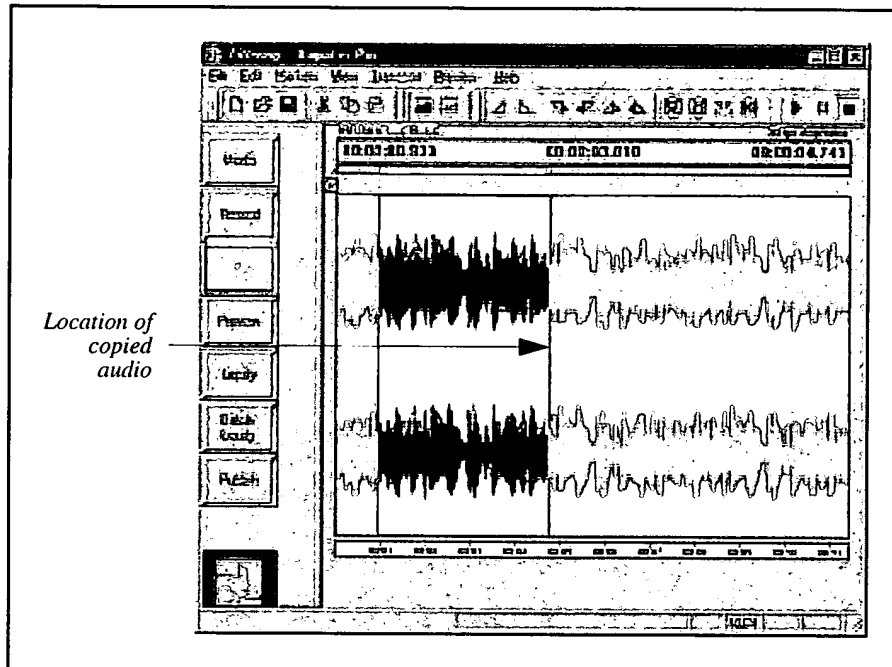


*Edit Pane—WAV File with Clipping*

.....	1
Copying Audio to the Head or Tail	2
	3
If you decide to increase the duration of the head or tail in	4
and audio image, you can add a small portion of audio to the	5
beginning or end of the file. Due to limitations of the	6
Clipboard, you can copy only 90 seconds of audio with any	7
given editing operation.	8
	9
<b>WARNING:</b> All edits are destructive and modify the source	10
file on disk when saved. If you are unsure about the edits you	11
want to make, save the original file using a new name, and	12
work with the renamed file.	13
	14
To copy audio to the head or tail:	15
1 Open the <b>Edit</b> pane.	16
2 Open the WAV file you want to edit.	17
3 Select the portion of the audio you want to copy.	18
Go to "Using Cursors to Define Audio Images" on page	19
8-32 for information on selecting the start and end	20
points of an image.	21
	22
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- 4 Do one of the following:
    - On the **Edit** menu, click **Copy**.
    - On the **Edit** toolbar, click .
  - 5 Select the location for the copy.
  - 6 Do one of the following:
    - On the **Edit** menu, click **Paste**.
    - On the **Edit** toolbar, click .
- A warning message appears.
- 7 Click **OK**.
- The audio is pasted to the new location.



## .....

### Cropping Audio from the Head or Tail

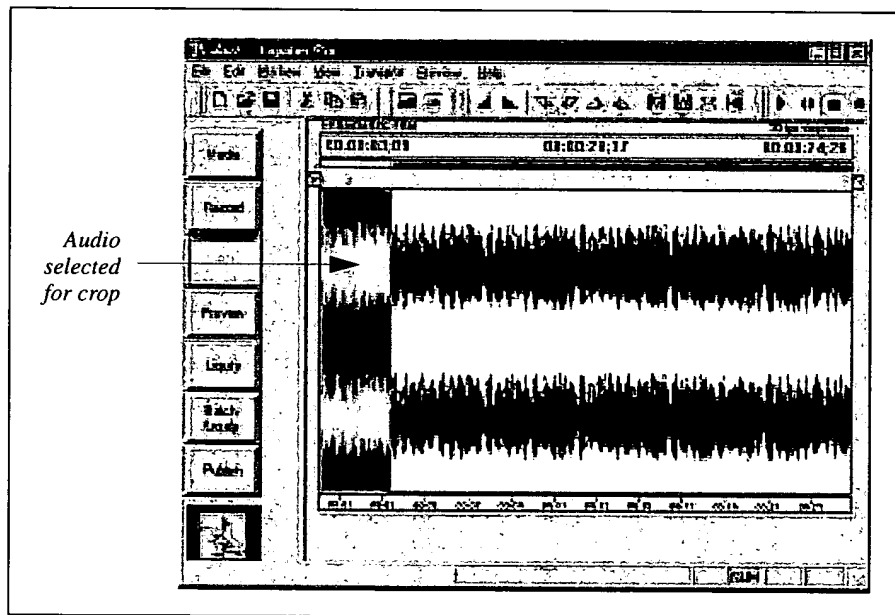
The Crop command lets you trim unwanted portions of audio from the song image. If you recorded too much silence at the head or tail of a file, or if there is unwanted noise in the file, you can remove it by using the Crop command. Cropping an unwanted selection of an audio removes the audio from the WAV file and deletes it from your hard disk.

**WARNING:** All edits are destructive and modify the source file on disk when saved. If you are unsure about the edits you want to make, save the original file using a new name, and work with the renamed file.



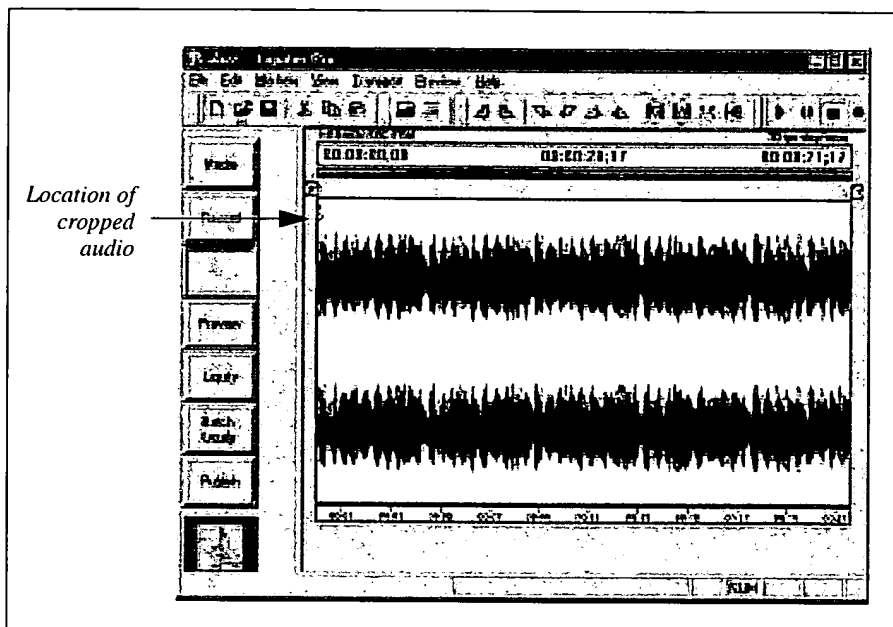
To crop audio from the head or tail:

- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to edit.
- 3 Select the portion of the audio you want to retain.  
Go to “Using Cursors to Define Audio Images” on page 8-32 for information on selecting the start and end points of an image.



- 4 On the **Edit** menu, click **Crop**.  
A warning message appears.
- 5 Click **OK**.

The unwanted portion, as indicated by the gray area in the Waveform Display, is cropped from the WAV file. The selected portion of the song, as indicated by the clear area of the Waveform Display, is retained in the song image.



## Deleting Audio from a WAV File

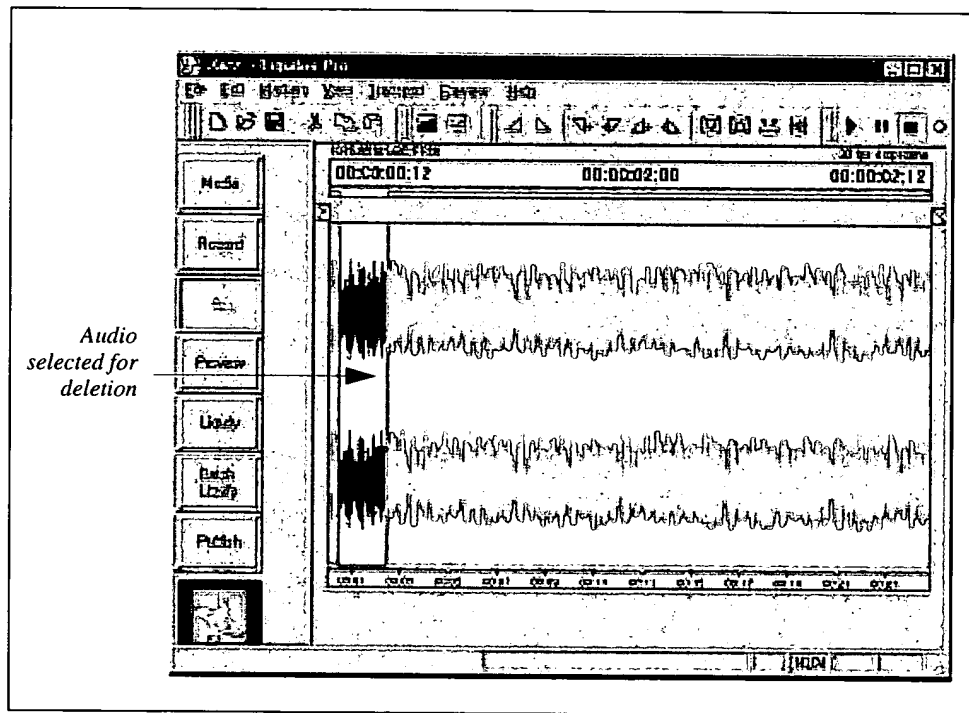
Deleting an unwanted selection of an audio removes the audio from the WAV file and deletes it from your hard disk.

**WARNING:** All edits are destructive and modify the source file on disk when saved. If you are unsure about the edits you want to make, save the original file using a new name, and work with the renamed file.

To delete audio from a WAV file:

- 1 Open the **Edit** pane.
- 2 Open the WAV file you want to edit.
- 3 Select the portion of audio you want to delete.

Go to “Using Cursors to Define Audio Images” on page 8-32 for information on selecting the start and end points of an image.

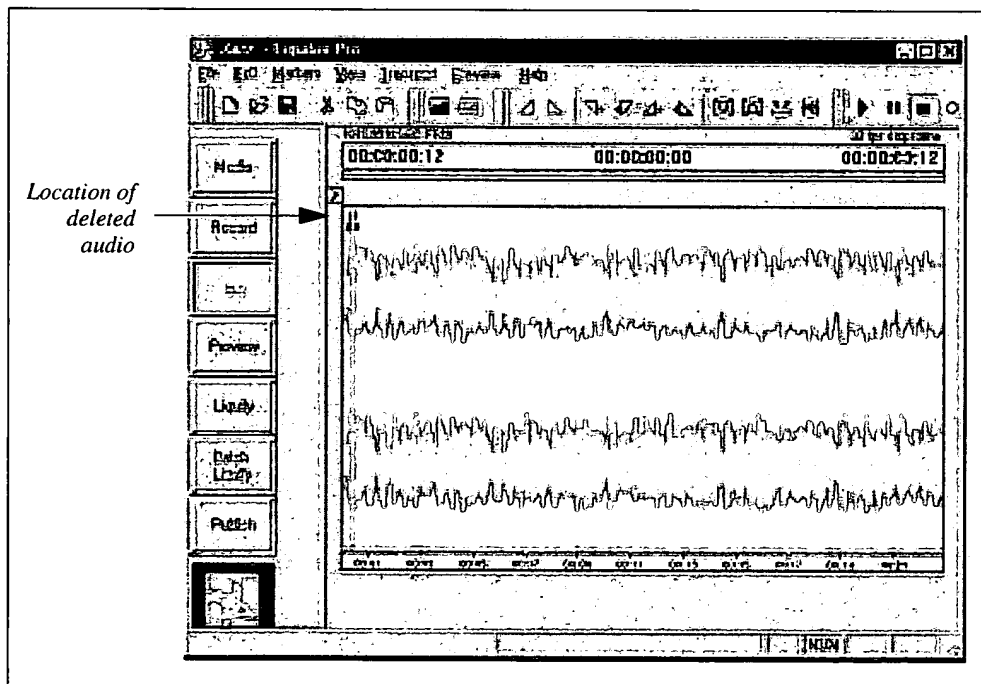


- 4 Do one of the following:
- On the **Edit** menu, click **Delete**.
  - Press **DEL**.

A warning message appears.

- 5 Click **OK**.

The unwanted selection, as indicated by the clear portion of the Waveform Display, is deleted from the audio file. The portion of the audio you want to keep, as indicated by the gray area of the Waveform Display, is retained. A scissor symbol appears in the Waveform Display to indicate the location of the deletion.



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# Previewing Audio

This chapter explains how to use the Preview pane to select, encode, and compare the quality of audio images using various preprocessing options. These options let you compress the size of a sound file, while optimizing the quality of the audio for streaming or downloading over common Internet bandwidths.

.....

## Why Preview Audio?

The Preview pane allows you to test-play a song or clip using every possible Internet data rate (from 14.4 Kbps through ISDN-2). Based on how the preview sounds, you can create and fine tune a separate preview image for each data rate. This process does not affect the original song; instead, a new custom image is added to the Preview pane at every data rate that is encoded.

When you test-play a song, you can preview different network connection speeds, sampling rates, encoding algorithms, or channels (stereo or monaural) to determine the combination of options that best represent your music. These options let you simulate the consumer's listening experience when using the Liquid Music Player to stream a Liquid Track over the Internet.

Once you determine the options that produce the highest-quality audio for your music, you can use them to liquify the final song and clip image in the Liquify pane.

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## About Steaming and Encoding Technology

Streaming audio is a technique sending compressed audio over the net allowing for quicker playback. It lets you play an audio file on your computer without the need to download the file to a hard drive. Users of streaming audio need a plug-in and providers of streaming audio require special server software to deliver it.

Streaming audio is possible due to Liquifier Pro's sophisticated encoding technology that reduces the size of the audio file while maintaining the overall quality of the music. Encoding audio sound files enables you to compress and distribute CD-quality music to consumers using different network connection speeds to access the Internet.

Reducing file size is achieved by using an audio codec; a coding algorithm for data compression. The term codec is a contraction of the words COMpression and DECompression. A codec's function is to compress the audio during the encoding process and decompress the audio during playback.

Liquifier Pro offers two types of codecs: Dolby Digital AC-3 (audio code number 3) and MPEG-2 (Moving Pictures Expert Group) AAC (Advanced Audio Coding). These codecs serve to compress the digitized sound file for uploading to the Liquid Music Server and decompress the Liquid Track for streaming or downloading through the Liquid Music Player.

This process of compressing an audio file is accomplished by selecting a preset and encoding the file using the tools provided in the Preview pane. Each preset has been optimized to deliver the highest quality audio at a given codec, data rate, sample rate, and channel.

For example, compact discs use the following parameters:	1
• <b>Sample rate</b> —44.1 kHz (44,1000 discrete samples per a second of audio)	2
	3
• <b>Channels</b> —2 (stereo)	4
• <b>Bits per sample, per channel</b> —16	5
• <b>Levels per sample</b> —65,536	6
• <b>Total data rate (Mbps)</b> —1.4112	7
You can select from a library of factory presets or you can create your own presets. Additionally, you can also fine tune your audio image by performing EQ, dynamics, and normalization as part of the encoding preview.	8
	9
	10
Once you find the optimal data rate and preset to encode your music, you will apply these options to the create the final Liquid Master file.	11
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<b>A Tour of the Preview Pane</b>	15
The Preview pane is used to select portions of an audio file, apply different data rates and presets to the file, encode the file, and then select the options that produce the best sound quality for your music.	16
	17
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<b>Preview Pane—Functions</b>	20
The Preview pane provides the following functions:	21
• Simulate the end-user’s listening experience by previewing audio at a wide-variety of data rates and presets.	22
	23
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- Apply Liquifier Pro's sophisticated compression technology to reduce the size of the preview image while maintaining high-quality audio.
- Select from a library of encoding presets or create your own.
- Find the optimal amount of data reduction needed to achieve sonic transparency with the original master recording.
- Compare the compressed audio file to the original file during playback.
- Switch between previews encoded at different rates for A/B comparisons.
- Compare encoding presets and data rates without taking the time to encode the entire song.
- Perform EQ, dynamics, and normalization as part of the encoding preview.
- Save the optimal data rates and presets to use when liquifying audio images.

### **Preview Pane—Encoding Specifications**

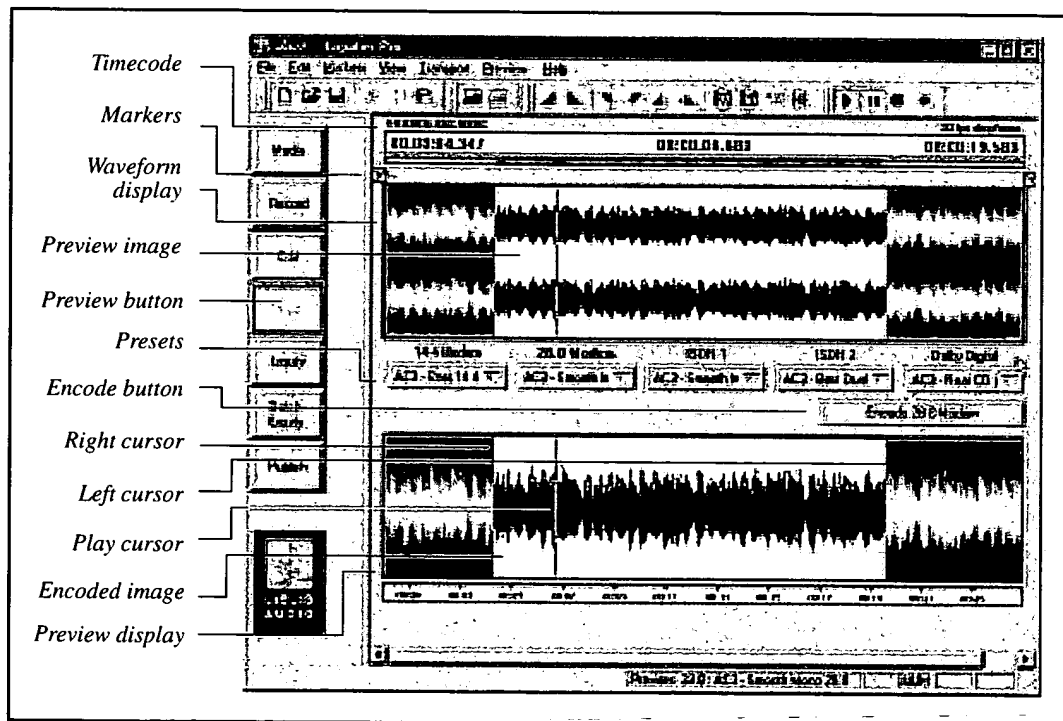
Encoding is the process of converting an audio file into a smaller, streaming format. Liquifier Pro 4.0 supports the following encoding specifications:

- **Compression ratio**—2:1 to 176:1
- **Supported bit rates**—8 Kbps to 640 Kbps
- **Codec**—Dolby Digital AC-3 (audio code number 3) and MPEG-2 (Moving Pictures Expert Group) AAC (Advanced Audio Coding) audio compression schemes

• <b>Presets</b> —14.4/28.8 Kbps, 28.8/33.6 Kbps, 56/ISDN-1, ISDN-2, and CD-Quality	1
	2
• <b>Sample rates</b> —8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, and 48 kHz	3
	4
<b>Preview Pane—Components</b>	5
The Preview pane furnishes the following components:	6
• <b>Preview taskbar button</b> —Opens the Preview pane in Liquifier Pro.	7
	8
• <b>Markers</b> —Marks the in-point and out-point for a preview image. Markers appear as small, yellow tabs along the top of the Waveform Display.	9
	10
• <b>Play cursor</b> —Indicates the portion of audio that is currently playing. It appears as a moving vertical line in both the Waveform and Preview Displays.	11
	12
• <b>Left cursor</b> —Separates the unselected portion of a WAV file from the selected portion. The unselected portion appears gray. The selected portion appears clear. When a marker is docked to the left cursor, it indicates the start of a preview image.	13
	14
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	16
• <b>Right cursor</b> —Separates the selected portion of a WAV file from the unselected portion. The selected portion appears clear. The unselected portion appears gray. When a marker is docked to the right cursor, it indicates the end of a preview image.	17
	18
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• <b>Timecode display</b> —Shows time in one of the following formats: Normal, SMPTE, SMPTE Subframes, or Samples.	21
	22
• <b>Preset button</b> —Displays the currently selected preset for a specific data rate.	23
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- **Preset menu**—Selecting a preset button and clicking the right mouse button displays a list of factory-supplied presets, user-created presets, and editing commands.
- **Encode button**—Compresses the WAV file using the data rate and preset selected in the Preview pane.
- **Preview Menu**—Lists commands for selecting, loading, and editing presets. The last five presets used to encode an audio file appear in the Preset and Context menus.

Procedures for using these components are explained in subsequent sections of this chapter. Menus and toolbars used in the Preview pane are described in *Chapter 3, Liquifier Pro Window*.

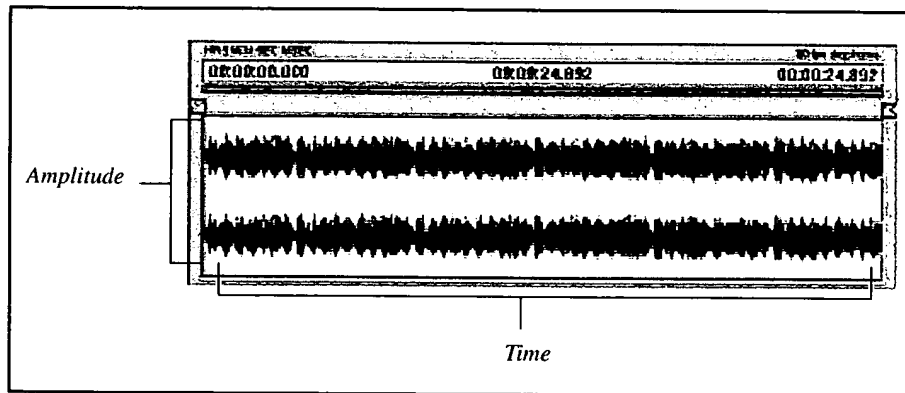


Preview Pane—Components

## Waveform Display

The Waveform Display shows the incoming signal from the WAV file as it is being played through the sound card. It is generated two ways, depending on whether the sound card supports input-level monitoring.

If input-level monitoring is supported, the level is read from the sound card at a regular interval. The level reported is the peak for that time period.



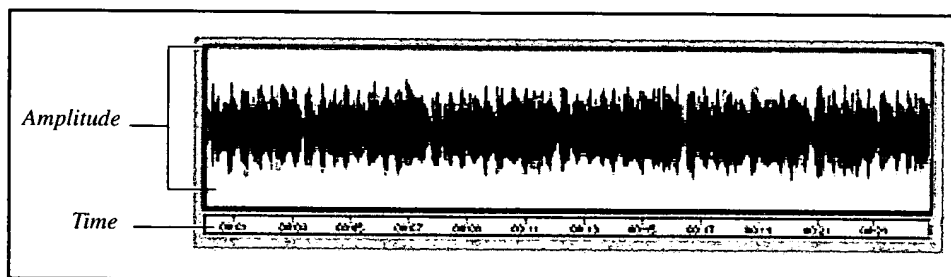
*Preview Pane—WAV File in Waveform Display*

If the sound card doesn't support input-level monitoring, the software performs a decimated peak-detection process on the current data block to determine the rough peak level. This process is approximate. Liquifier Pro will display a warning message (optional) if the peak monitoring is being performed in software.

The peak levels are used to generate the waveform that is displayed in the Preview pane. The waveform is scaled linearly with amplitude on the vertical axis and time on the horizontal axis.

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During audio playback, you can use keyboard shortcuts to switch between the WAV file and the encoded file for comparison.



### Preview Pane—Encoded Image in Preview Display

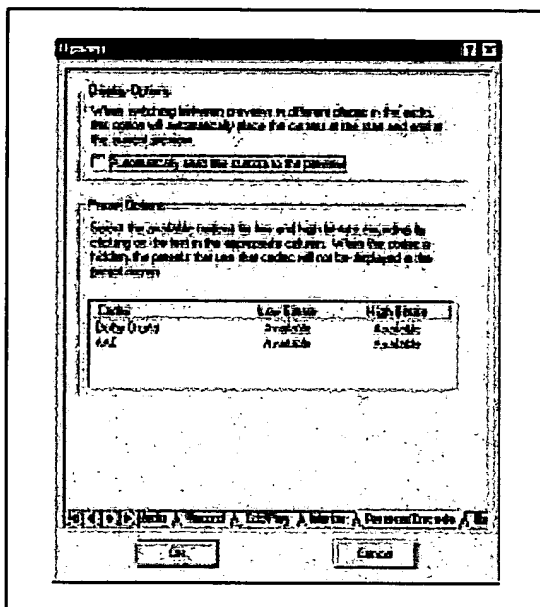
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Workflow for Previewing Audio Images	2
	3
This section describes the workflow you will use to encode an audio image in the Preview pane. Review these basic steps to familiarize yourself with the process before encoding preview images.	4
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1 <b>Open the WAV file</b> —The first step in previewing an audio image is to open the source file you want. The source file should be the song or clip image you extracted in the Edit pane.	7
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	9
2 <b>Play the WAV file</b> —You'll use the buttons supplied in the Transport toolbar to play the audio file, while keeping in mind where you would like to start and end the preview image.	10
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3 <b>Mark the preview image</b> —After listening to the audio selection, you are ready to mark the in-point and out-point for the preview image. Ideally, the image should include both dynamic and serene passages and be about 10 seconds in duration.	13
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4 <b>Select the data rate</b> —Choose an internet connection speed, such as 14.4 Kbps, 28.8 Kbps, or ISDN-1, at which to audition the preview image.	17
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	19
5 <b>Select the preset</b> —Choose a compression/decompression algorithm (codec) to encode the preview image.	20
	21
6 <b>Encode the preview image</b> —Apply Liquifier Pro's sophisticated codec technology to process the preview image while maintaining high-quality audio. Remember, this process does not affect the original song; instead, a new custom image is added to the Preview pane at every data rate that is encoded.	22
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- 7    **Audition the encoded image**—You'll use the buttons in the Transport toolbar to listen to the encoded image to make sure you are satisfied with the result.
- 8    **Compare audio images**—You will also want to listen to the quality of the original file and compare it to that of the encoded image.
- 9    **Choose different data rates and presets**—Liquifier Pro makes it easy for you to experiment with different data rates and presets until you achieve the optimal sound quality for your music.
- 10   **Make A/B comparisons**—After you encode the audio image using different data rates and presets, you'll want to compare them and determine which ones sound the best.
- 11   **Save the final data rates and presets**—Choose the best data rates and presets for streaming and downloading your music on the Internet.

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## Preview Pane—User Options

Liquifier Pro provides a number of user options you can set to facilitate your work process. These options, which are set in the Options window, are described in *Chapter 16, Customizing Liquifier Pro*.



Options Window—Preview/Encode Tab

Refer to Table 10–1 for a list of options that apply to the Preview pane.

Table 10–1: Preview Pane—User Options

To:	Go to:
Load the most recently used preset file on application startup	“Customizing Media and Pre-set Startup Options” on page 16-9
Load the default preset file on application startup	“Customizing Media and Pre-set Startup Options” on page 16-9
Display or hide specific presets in the Preview pane.	“Customizing Preview and Encode Options” on page 16-29



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## Tips for Encoding Audio Images

Selecting the optimal preset to encode your music depends on a number of factors. These factors include data rate for streaming or downloading audio files, sample rate, as well as dual (stereo) or single (monaural) channel sound reproduction.

### **Data rate**

Data rate refers to the amount of data that can be sent through an Internet or network connection over a specific period of time. Data rate, which is also called bandwidth, is measured in kilobits per second (Kbps).

You're already familiar with most standard bandwidths in use today. Common designations are 14.4 Kbps, 28.8 Kbps, 56 Kbps, and ISDN connections. Liquifier Pro supports user-selectable data rates from 8 to 256 Kbps.

The ideal choice of data rate depends largely on the target delivery platform for your audio. In general, the lower the data rate, the higher the compression ratio. The higher the data rate, the higher the audio quality. Keep in mind, however, that too high a compression rate can degrade audio quality to an unacceptable level.

Data rates also affect the size of a file. Higher data rates also mean larger files. The larger the files, the longer it takes to stream and download over the Internet.

For example, a 28.8 Kbps modem handles data at a maximum data rate of 28.8 Kbps. Therefore, the highest data rate you would use to ensure real-time streaming of an audio using a 28.8 modem is 28 Kbps. However, since you can expect some fluctuation due to network congestion, noise, data loss, and packet overhead, a more realistic modem rate is 24 or 20 Kbps.

As a rule of thumb, if your target data rate is 28.8 Kbps, take 75% of that rate as the maximum bandwidth necessary for streaming your audio files.

### **Sample Rate**

Sample rate directly affects what frequencies can be reproduced by the digital audio file. The most commonly found sample rate is 44.1 kHz, the sample rate of CD-quality audio.

When encoding files with Liquifier Pro, it is usually best to use the highest sample rate possible. For most music, 44.1 kHz is ideal, but 22.05 generally sounds adequate. For voice, 11 kHz sounds good, but 22 kHz is adequate. Keep in mind, however, as you lower the sample rate, you lower the maximum frequency that may be represented in the digital audio file.

In addition to audio quality, the choice of sample rate also affects the amount of time it takes to encode a file and the computer processing power that is required to decode the compressed file.

1 Reducing the sample rate from 44.1 kHz to 22.05 kHz will  
2 reduce the time it takes to encode the audio file by half.  
3 However, this process will also reduce the audio quality of  
4 the encoded file. Using a reduced sample rate will also  
5 reduce the amount of processing time it takes to decode the  
6 file by half.

### 6 **Stereo and Monaural Sound Reproduction**

7 The choice of whether to use stereo or monaural reproduction  
8 requires considerations similar those of sample rate. The  
9 audio file size is generally proportional to the sample rate,  
10 with stereo doubling the file size.

11 If the source file is mono then the compressed file should  
12 also be monaural. If the source file is stereo, then you should  
13 encode it as stereo.

14 If the compressed stereo file contains audio artifacts, try  
15 encoding the file again as mono. Mono minimizes potential  
16 artifacts, but you can lose the ambiance of the stereo field.

17 In addition to quality, the decision to select stereo over mono  
18 also affects the amount of time and computer processing  
19 power required to encode and decode a file. In general,  
20 encoding a file in mono reduces the encoding and decoding  
21 requirements by half.  
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<b>Optimizing Quality for Encoded Audio</b>	1
To optimize quality for encoded audio, consider the following recommendations:	2
	3
• Select the highest data rate possible for your audio image. For instance, for 33.6 Kbps modem streaming audio use 28.8 Kbps.	4
	5
• Choose the highest sampling rate possible for your audio image. The most commonly found sample rate is 44.1 kHz, the sample rate of CD audio, provides the fullest sound.	6
	7
	8
• Use the factory-supplied presets as a starting point for encoding most types of audio.	9
	10
• Don't compress the source file more than once. The file size won't get smaller, and the file will be unusable.	11
	12
.....	13
<b>What Else Can You Do?</b>	14
	15
The factory presets supplied in the Preview pane have been optimized for producing high-quality audio for most types of music. If you are not satisfied with the results, you can modify the settings as needed to deliver the best fidelity for your audio images.	16
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For example, you can create your own presets at various data rates or perform EQ, dynamics, and normalization as part of the encoding preview. When you are done encoding your audio file using the factory presets, go to <i>Chapter 11, Creating User Presets</i> and <i>Chapter 12 Applying Advanced Encoding Options</i> for complete information on custom preprocessing options.	20
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## Opening the Preview Pane

To open the Preview pane:

- 1 Start **Liquifier Pro**.
- 2 Do one of the following:
  - On the **View** menu, click **Preview pane**.
  - On the **Liquifier Pro** taskbar, click **Preview**.


The Preview pane opens on your desktop.

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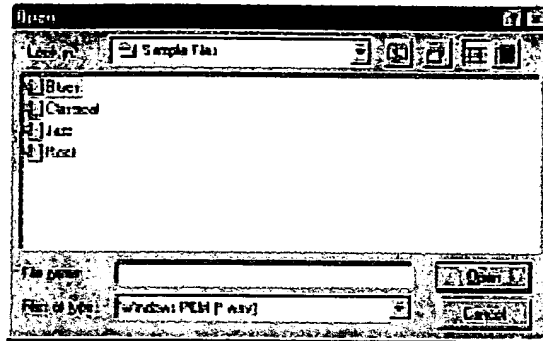
## Opening Source Audio Files

Use the procedure in this section to open the song or clip file on which you want to work in the Preview pane.

To open a source audio file:

- 1 Open the **Preview** pane.
  - On the **File** menu, click **Open**.
  - On the **File** toolbar, click 

The Open window appears.



- 2 In the **Files of Type** list, do one of the following:
  - Select **Liquifier Audio Workspace (.law)** to open the WAV file associated with a Liquifier Audio Workspace.
  - Select **Windows PCM (.wav)** to open a WAV-format file.
- 3 In the **Look In** box, click the drive, folder, or Internet location that contains the file.
- 4 In the folder list, double-click folders until you open the folder that contains the file you want.
- 5 Double-click the file you want to open.

The Open window closes and the waveform generates in the Waveform Display.

## Playing WAV Files

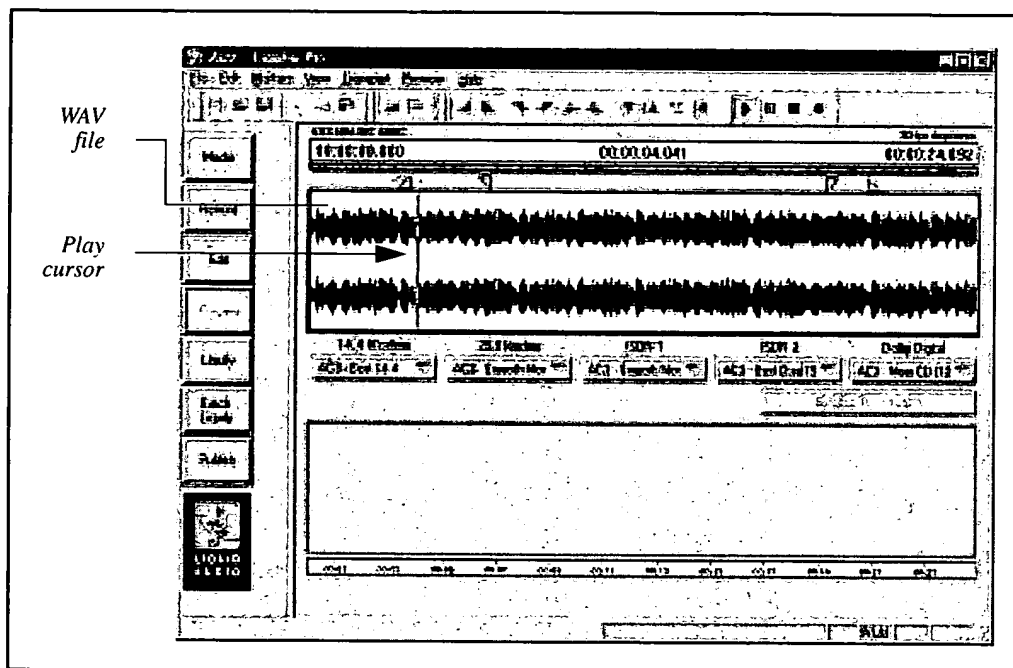
Before selecting a portion of the WAV file to preview, you should listen to the entire audio image, while keeping in mind the following questions:

- What is the most dynamic portion of the audio image?
- What is the most serene portion of the audio image?
- Where do I want the audio image to start?
- Where do I want the audio image to end?

To play the WAV file:

- 1 Open the **Preview pane**.
- 2 Open the WAV file you want to use.
- 3 Place the pointer in the Waveform Display and click the left mouse button.
- 4 From the **Edit** menu, click **Select All**.  
The entire WAV file is selected in the Waveform Display.
- 5 Do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click ► .

The audio file plays in its entirety. A vertical line, called the play cursor, moves across the Waveform Display indicating the portion of audio currently playing.



## Marking Preview Images

In this section, you select a short portion of audio image to preview at all possible data rates. To achieve optimal results, select a both dynamic and serene portions of the audio to preview, somewhere between 10 to 20 seconds in duration. The source for the audio image can be a song or clip file.



## Marking the In Point for the Preview Image

This section explains how to choose the start (in-point) for the audio image you want to preview.

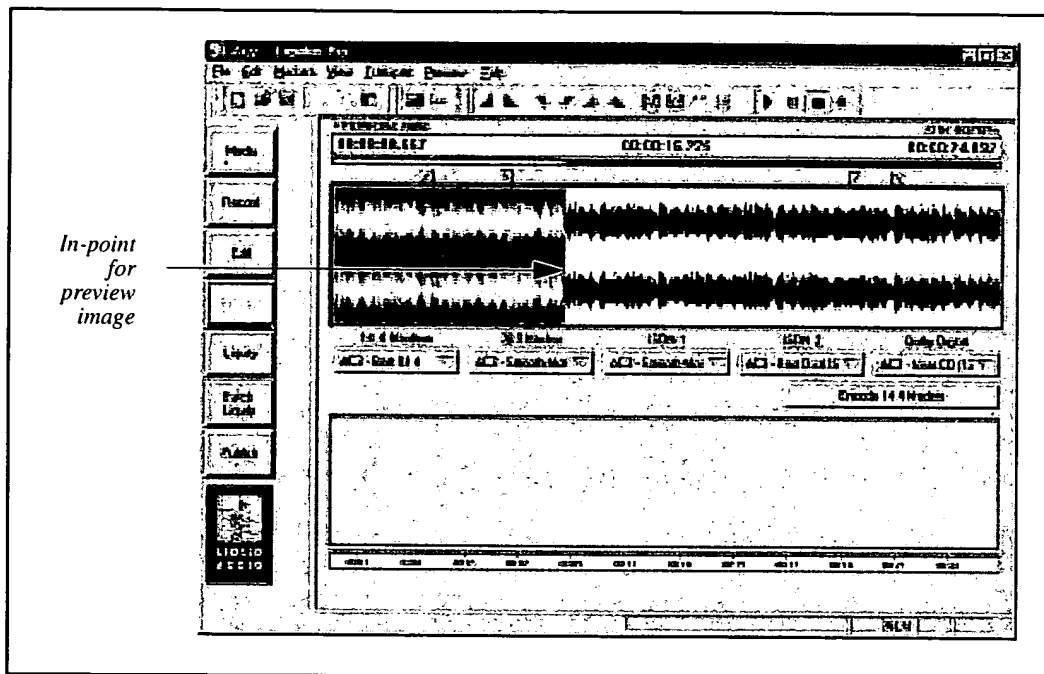
To mark the in-point for the preview image:

- 1 Open the **Preview** pane.
- 2 Open the WAV file you want to use.
- 3 Do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click ► .
  - Press the **SPACEBAR**.

The play cursor appears in the Waveform Display. It continues to move across the waveform as the WAV files plays until you stop or pause it using the Transport control buttons.

- 4 To pause the play cursor at the position you want to designate as the in-point, do one of the following:
  - On the **Transport** menu, click **Pause**.
  - On the **Transport** toolbar, click II .
  - Press the **SPACEBAR**.
- 5 Observe the position of the play cursor by noting the timecode display.
- 6 To select the in-point for the preview image, do the following:
  - A) Position the pointer at the play cursor in the Waveform Display.
  - B) Press and hold down the left mouse button.  
The left cursor appears.

C)	Press <b>SHIFT</b> as you continue to hold down the left mouse button.	1
		2
	A portion of the Waveform Display appears gray and another portion appears clear. The gray area represents the portion of the audio you do not want to select. The clear area represents the portion of the audio you do want to select.	3
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D)	Drag the pointer to the location you want for the start of the preview image. Refer to the timecode display to select the exact position.	7
		8
	The left cursor, the line separating the gray area from the clear area, designates the start of the preview image.	9
		10
E)	Release the left mouse button	11
	The in-point for the preview image is selected.	12
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- 6 Go to "Marking the Out Point for the Preview Image" on page 8-22.

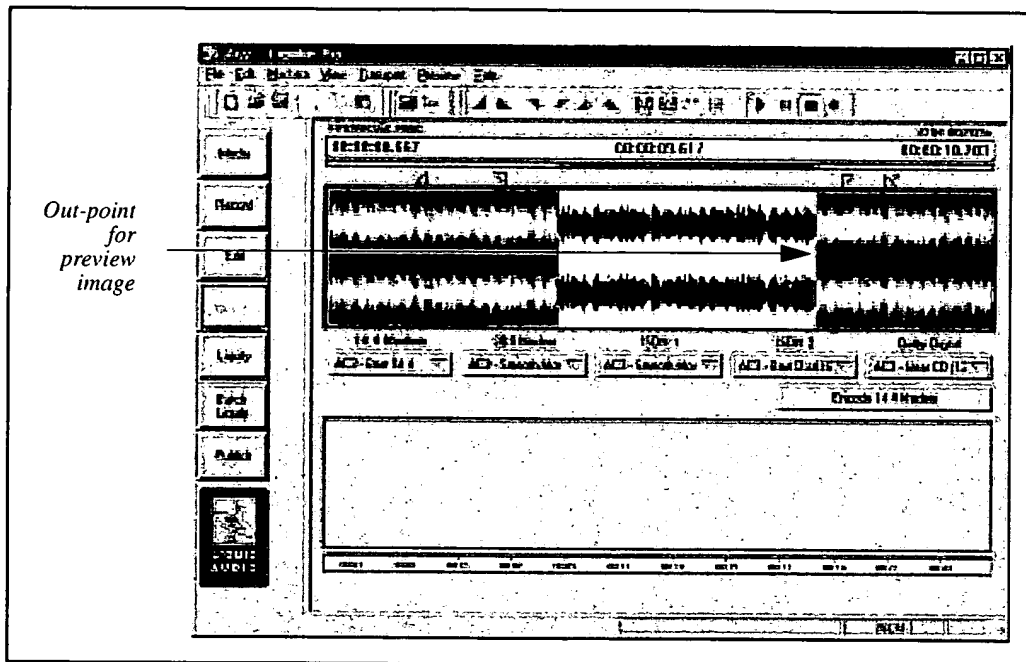
### Marking the Out Point for the Preview Image

Follow this procedure to select the end (out-point) for the audio image you want to preview after you have selected the in-point for the image.

To mark the out-point for the preview image:

- 1 Do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click **▶**.
  - Press the **SPACEBAR**.

	The play cursor starts at the in-point and then moves across the Waveform Display until you stop or pause it using the Transport control buttons.	1
		2
2	To pause the play cursor at the position you want to designate as the out-point, do one of the following:	3
	• On the <b>Transport</b> menu, click <b>Pause</b> .	4
	• On the <b>Transport</b> toolbar, click <b>II</b> .	5
	• Press the <b>SPACEBAR</b> .	6
3	Observe the position of the play cursor by noting the timecode display.	7
		8
4	To select the out-point for the preview image, do the following:	9
		10
A)	Position the pointer at the play cursor in the Waveform Display.	11
	Note: Make sure you position the pointer after the in-point already selected for the preview image.	12
		13
B)	Press and hold down the left mouse button.	14
	The right cursor appears.	15
		16
C)	Press <b>SHIFT</b> as you continue to hold down the left mouse button.	17
		18
	A portion of the Waveform Display appears gray and another portion appears clear. The gray area represents the portion of the audio you do not want to select. The clear area represents the portion of the audio you do want to select.	19
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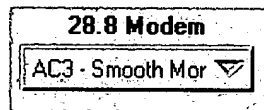
## Selecting Data Rates

After you select the image you want to preview, you need to select the data rate. Data rate refers to the amount of data that can pass through an Internet or a network connection during a given period of time. Data rate is measured in Kilobits per second (Kbps).

To select a data rate:

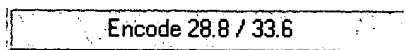
- 1 Open the **Preview** pane.
- 2 Open the WAV file you want.
- 3 Select the audio image you want to preview.  
Go to "Marking Preview Images" on page 9-19.
- 4 Do one of the following:
  - Click the **Data Rate** above the **Preset** button.

The label becomes highlighted.



- Press **TAB** to move between data rates.

The selected data rate appears on the Encode button.



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## Selecting Factory Presets

Audio requires approximately 11 megabytes of storage for one minute of CD-quality sound. To reduce these data requirements, you need to select a factory-supplied preset and apply it to your audio image. Each preset has specific sonic characteristics that produce different audio quality.

### Factory Presets—Parameters

Table 10–2 describes the basic parameters of the factory presets available in the Liquifier Pro 4.0 products. The columns in the table provide the following information:

- **Preset Number**—is the value used to index the preset. (This is applicable to the mass encoder toolset).
- **Data Rate**—the output data rate of the compressed audio. A VBR suffix indicates the use of variable bit rate encoding and the specified data rate is approximate.
- **Codec**—lists the type of codec used for compression. AC-3 refers to Dolby Digital AC-3, AAC refers to Fraunhofer AAC implementation.
- **Decoded Output**—specifies the sample rate and number of channels in the decompressed audio.

**Table 10–2: Preview Pane—Factory Presets (Sheet 1 of 4)**

Preset	Data Rate (Kbps)	Codec	Decoded Output	Description
0	10	AAC	8kHz mono	Best 14.4
1	16	AAC	22kHz, mono	Smooth 28.8 fallback
2	16	AAC	22kHz, mono	Bright 28.8 fallback
3	16	AAC	22kHz, mono	Speech 28.8 fallback
4	20	AAC	22kHz, mono	Smooth Mono 28.8/33.6
5	20	AAC	22kHz, mono	Bright Mono 28.8/33.6
6	20	AAC	22kHz, mono	Speech Mono 28.8/33.6
7	20	AAC	8kHz, stereo	Best Stereo 28.8/33.6
8	32	AAC	32kHz, mono	Smooth Mono 56
9	32	AAC	32kHz, mono	Bright Mono 56
10	32	AAC	32kHz, mono	Speech Mono 56
11	32	AAC	22kHz, stereo	Smooth Stereo 56



**Table 10–2: Preview Pane—Factory Presets (Sheet 2 of 4)**

Preset	Data Rate (Kbps)	Codec	Decoded Output	Description
12	32	AAC	22kHz, stereo	Bright Stereo 56
13	48	AAC	32kHz, mono	Best Mono ISDN-1
14	48	AAC	24kHz, stereo	Best Stereo ISDN-1
15	64	AAC	44.1kHz, mono	Mono (64)
16	64	AAC	32kHz, stereo	Stereo (64)
17	96	AAC	44.1kHz, stereo	Best Stereo (96)
18	128	AAC	44.1kHz, stereo	Streaming (128)
19	128 (VBR)	AAC	44.1kHz, stereo	Transparent (128 VBR)
20	192 (VBR)	AAC	44.1kHz, stereo	Audiophile (192 VBR)
21	10	AC3	8kHz mono	Best 14.4
22	20	AC3	11kHz, mono	Smooth Mono 28.8
23	20	AC3	11kHz, mono	Bright Mono 28.8
24	20	AC3	8kHz, stereo	Bright Stereo 28.8
25	20	AC3	8kHz, stereo	Punchy Stereo 28.8

**Table 10–2: Preview Pane—Factory Presets (Sheet 3 of 4)**

<b>Preset</b>	<b>Data Rate (Kbps)</b>	<b>Codec</b>	<b>Decoded Output</b>	<b>Description</b>
26	32	AC3	16kHz, mono	Smooth Mono 56k
27	32	AC3	16kHz, mono	Bright Mono 56k
28	32	AC3	11kHz, stereo	Smooth Stereo 56k
29	32	AC3	11kHz, stereo	Bright Stereo 56k
30	48	AC3	16kHz, mono	Smooth Mono ISDN-1
31	48	AC3	16kHz, mono	Bright Mono ISDN-1
32	48	AC3	16kHz, stereo	Smooth Stereo ISDN-1
33	48	AC3	16kHz, stereo	Bright Stereo ISDN-1
34	48	AC3	16kHz, stereo	Warm Stereo ISDN-1
35	64	AC3	22kHz, stereo	Stereo (64)
36	96	AC3	32kHz, stereo	Best Stereo (96)
37	128 (VBR)	AC3	44.1kHz, stereo	Near-CD (128 VBR)
38	192 (VBR)	AC3	44.1kHz, stereo	Transparent (192 VBR)

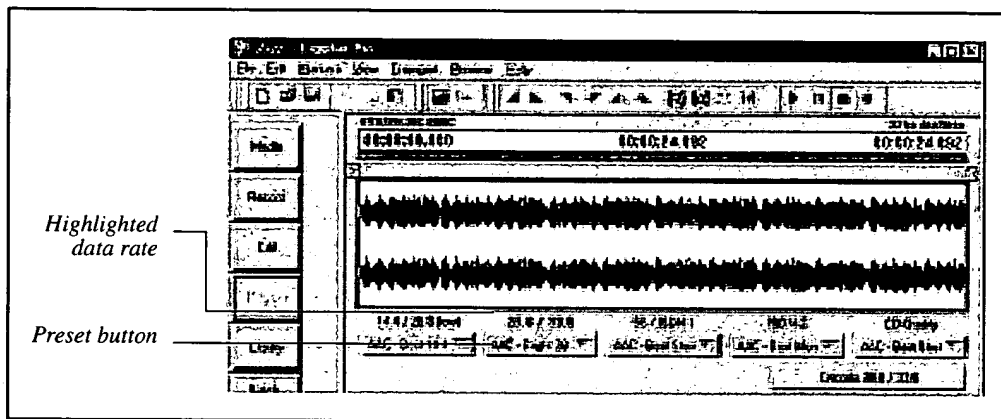
**Table 10–2: Preview Pane—Factory Presets (Sheet 4 of 4)**

Preset	Data Rate (Kbps)	Codec	Decoded Output	Description
39	256	AC3	44.1kHz, stereo	Audiophile (256)
40	16	AC3	11kHz, mono	28.8 Fall-back
41	24	AC3	11kHz, mono	Smooth Mono 33.6
42	24	AC3	11kHz, mono	Bright Mono 33.6
43	24	AC3	8kHz, stereo	Smooth Stereo 33.6
44	96	AC3	44.1kHz, stereo	CD Compatible (96)
45	Linear	PCM	Same as input	Linear

If you don't want to use the factory preset supplied by Liquifier Pro, you can create your own presets. Go to *Chapter 11, Creating User Presets* for complete information.

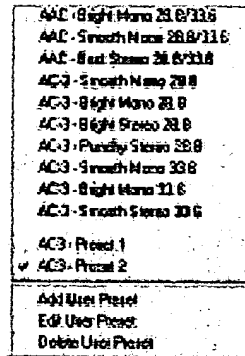
To select a factory preset:

- 1 Open the **Preview** pane.
- 2 Open the WAV file you want.
- 3 Select the audio image you want to preview.  
Go to “Marking Preview Images” on page 9-19 for complete information.
- 4 Select the data rate you want to preview.  
Go to “Selecting Data Rates” on page 9-25 for complete information.
- 5 Do the following:
  - A) Locate the highlighted **Data Rate** in the Preview pane.
  - B) Position the pointer on the **Preset** button below the data rate.



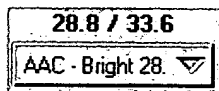
C) Press and hold down the left mouse button.

The Preset menu opens. It lists factory presets supplied by Liquifier Pro, as well as any user presets you might have created.



4 Select the preset you want and release the left mouse button.

The selected preset appears on the Preset button.



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## Encoding Preview Images

This section explains how to use one of the Liquifier Pro factory presets to encode an audio image.

To encode a preview image:

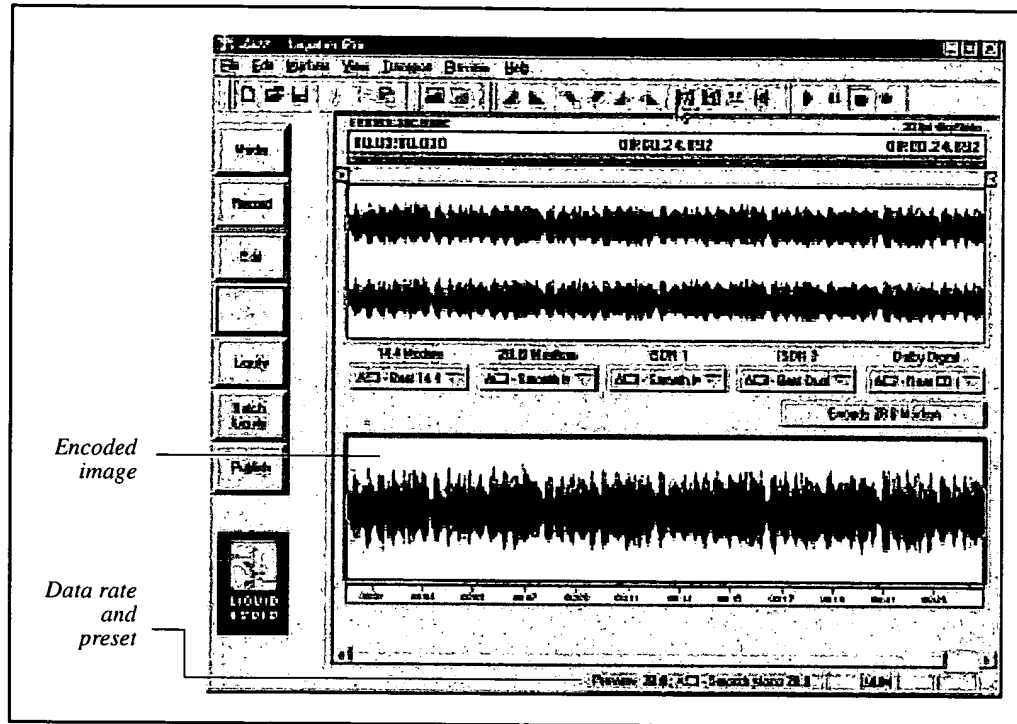
- 1 Open the **Preview** pane.
- 2 Open the WAV file you want.
- 3 Select the audio image you want to preview.  
Go to “Marking Preview Images” on page 9-19 for complete information.
- 4 Select the data rate you want to preview.  
Go to “Selecting Data Rates” on page 9-25 for complete information.
- 5 Select the factory preset you want to use.  
Go to “Selecting Factory Presets” on page 9-26 for complete information.
- 6 Click the **Encode** button.



A progress window appears.

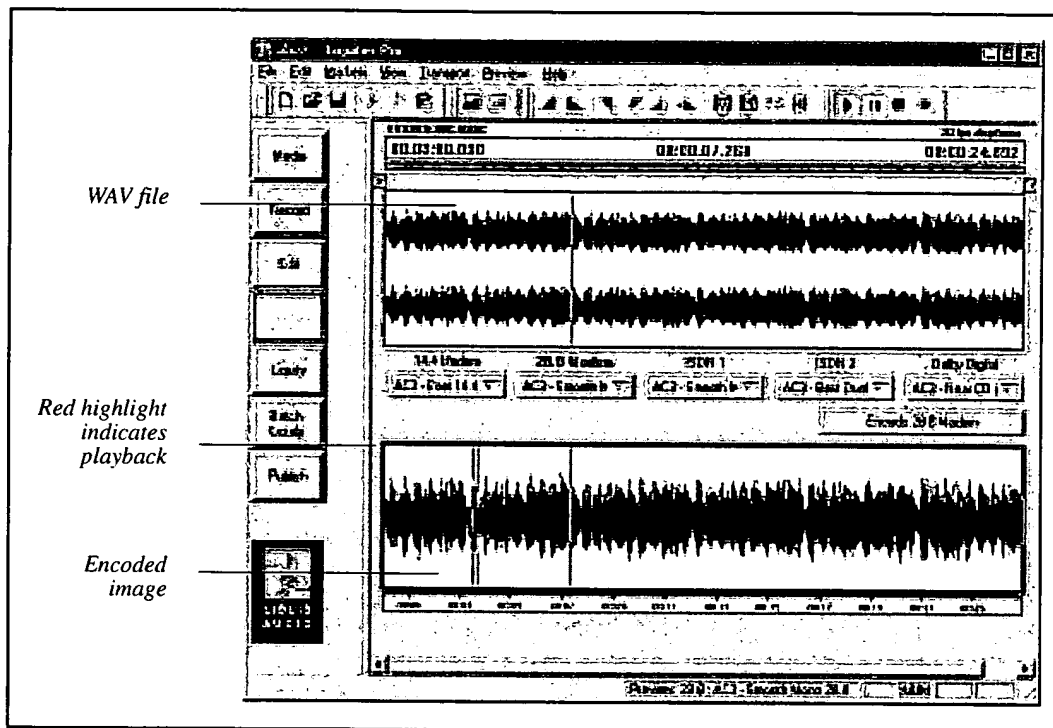


After a few moments, the encoded file appears in the Preview Display. The data rate and preset selected for the preview file appears in the status bar.



.....	1
<b>Auditioning Preview Images</b>	2
After encoding a preview image, you'll need to play back the encoded image and listen to how it sounds. You'll also want to listen to the original WAV file and compare it to the encoded file.	3 4 5 6
<b>Auditioning Encoded Images</b>	7
To audition an encoded image:	8
1 Open the <b>Preview</b> pane.	9
2 Open the WAV file you want.	10
3 Encode the audio image you want to preview.	11
Go to "Encoding Preview Images" on page 9-33 for complete information.	12 13
4 Place the pointer in the Preview display and click the left mouse button.	14
The encoded image is selected. A red line highlights the Preview display.	15 16
5 Do one of the following:	17
• On the <b>Transport</b> menu, click <b>Play</b> .	18
• On the <b>Transport</b> toolbar, click ► .	19
• Press the <b>SPACEBAR</b> .	20
The play cursor appears in both the Waveform Display and the Preview display indicating the portion of the file that is currently playing. The file plays until you stop or pause it using the Transport control buttons.	21 22 23 24 25





## Comparing WAV Files to Encoded Images

After encoding the preview image, you need to compare it to the original WAV file to determine if the quality of the audio is satisfactory.

To compare the WAV file to the encoded image:

- 1 Open the **Preview** pane.
- 2 Open the WAV file you want.
- 3 Encode the audio image you want to preview.

Go to "Encoding Preview Images" on page 9-33 for complete information.

4	Do one of the following:	1
	• On the <b>Transport</b> menu, click <b>Play</b> .	2
	• On the <b>Transport</b> toolbar, click ►.	3
	• Press the <b>SPACEBAR</b> .	4
5	Do one of the following:	5
	• Press <b>CTRL+UP ARROW</b> to play the WAV file in the Waveform Display.	6
		7
	• Press <b>CTRL+DOWN ARROW</b> to play the encoded file in the Preview Display.	8
		9
	A red line highlights the Waveform or Preview display area, indicating the file that is currently playing.	10
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	<b>Comparing Different Presets</b>	13
	If you aren't satisfied with the quality of the encoded audio, you can apply different presets and encode the WAV file again.	14
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	<b>Selecting Different Presets</b>	17
	To select a different preset for the preview image:	18
1	Open the <b>Preview</b> pane.	19
2	Open the WAV file you want.	20
3	Select the audio image you want to preview.	21
	Go to "Marking Preview Images" on page 9-19 for complete information.	22
		23
4	Select the data rate you want to preview.	24
		25

Go to “Selecting Data Rates” on page 9-25 for complete information.

Do the following:

A) Locate the highlighted **Data Rate** in the Preview pane.

B) Position the pointer on the **Preset** button below the data rate.

C) Press and hold down the left mouse button.

A list of presets appear. The list contains factory presets supplied by Liquifier Pro, as well as any user preset you might have created.

Select the preset you want and release the left mouse button.

The selected preset appears on the Preset button.

Encode the preview image.

Go to “Encoding Preview Images” on page 9-33 for complete information.

Compare the WAV file to the encoded image.

“Comparing WAV Files to Encoded Images” on page 9-36 for complete information.

### **Auditioning Different Presets**

Once you have selected and encoded a preview image using different presets, you’ll want to perform an A/B comparison see which audio image has the best quality.

When you select different presets and apply them to the same preview image, Liquifier Pro saves the last five presets you encoded. The presets are listed in the Preview menu and the Context menu. The menus, which display in a drop-down list format, let you easily choose between previews encoded at the same data rate, but using audio codecs.

### Using the Preview Menu for A/B Comparisons

To use the Preview menu for A/B comparisons:

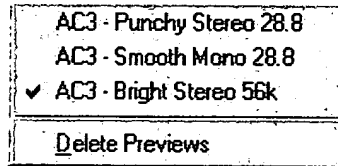
- 1 Open the **Preview** pane.
- 2 Encode two or more preview images using different presets.
- 3 On the **Preview** menu, point to a data rate, and then click the preset you want.
- 4 To play the preset, do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click ► .
  - Press the **SPACEBAR**.

### Using the Context Menu for A/B Comparisons

To use the Context menu for A/B comparisons:

- 1 Open the **Preview** pane.
- 2 Encode two or more preview images using different presets.
- 3 Position the pointer in the Preview Display.
- 4 Click the right mouse button.

A list of presets opens.



- 5 Select the preset you want and release the mouse button.
- 6 To play the preset, do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click ► .
  - Press the **SPACEBAR**.

.....

## Comparing Different Data Rates

Liquifier Pro also enables you to easily compare the audio quality of preview images encoded at different data rates.

### Selecting Different Data Rates

To select a different data for the preview image:

- 1 Open the **Preview** pane.
- 2 Open the WAV file you want.
- 3 Select the audio image you want to preview.  
Go to “Marking Preview Images” on page 9-19 for complete information.
- 4 Select the data rate you want to preview.  
Go to “Selecting Data Rates” on page 9-25 for complete information.

5	Select the preset you want to preview.	1
	Go to “Selecting Factory Presets” on page 9-26 for complete information.	2
6	Encode the preview image.	3
	Go to “Encoding Preview Images” on page 9-33 for complete information.	4
		5
		6
	<b>Auditioning Different Data Rates</b>	7
	To audition different data rates:	8
1	Open the <b>Preview</b> pane.	9
2	Encode two or more preview images using different data rates.	10
3	Do one of the following:	11
	• On the <b>Transport</b> menu, click <b>Play</b> .	12
	• On the <b>Transport</b> toolbar, click ►.	13
	• Press the <b>SPACEBAR</b> .	14
4	To toggle the different data rates, press <b>CTRL+LEFT ARROW</b> .	15
		16
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	.....	18
	<b>Saving Factory Presets</b>	19
	Liquifier Pro automatically saves the last five presets you used to encode a sample sound file. These presets appear in the Preview menu and the Preset menu associated with the Preset button. No additional procedure is required to save the factory presets used to encode a file.	20
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When you are ready to encode your final audio files, you'll find that the last five factory presets you selected in the Preview pane also appear in the Liquify pane.

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## Closing the Preview Pane

To close the Preview pane:

- On the **Liquifier Pro taskbar**, click a workspace pane button.

The Preview pane closes and the workspace pane you selected opens on your desktop.

# Creating User Presets

This chapter explains how to create your own presets using the codec, data rate, sample rate, channel, equalization, and dynamics options provided in the Preview pane. This chapter also describes how to edit user presets, including modifying, deleting, saving, and loading them in Liquifier Pro.

.....

## Why Create User Presets?

Liquifier Pro offers a number of factory presets, such as 14.4/28.8, 33.6/56, ISDN-1, ISDN-2, and CD-Quality, that are optimized for streaming encoded audio files over the Internet.

A primary psychoacoustic effect of encoding WAV files is a masking or removal of audio signals to achieve a highly-compressed file. For certain types of music, however, masking or discarding audio signals can affect the quality of the sound.

If you tried the factory presets supplied in the Preview pane and found they did not yield a satisfactory result, you have the option to create your own presets.

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## User Presets—Options

User presets are created in the User Presets window. This window furnishes the following options for creating custom presets:

- **Codec**—Selects the Dolby Digital AC-3 or MPEG-2 AAC encoding algorithm.
- **Data rates**—Selects data rates ranging from 128 Kbps to 640 Kbps.
- **Sample rates**—Specifies a sample rate of 8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, or 48 kHz.
- **Channels**—Specifies stereo or monaural sound reproduction.
- **Equalization**—Refines the tonal quality of the audio image by applying gain to the input signal based on a given frequency.
- **Dynamics**—Contains a single control that adjusts the Limiter Threshold between 0 and -20 dB in 1 dB steps. It makes overall adjustments to the peak level of audio.

## What Else Can You Do?

After creating a user preset, you can apply additional encoding options to enhance the quality of the audio. Procedures for using these options, which include equalization, dynamics, and normalization, are described in *Chapter 12, Setting Advanced Encoding Options*.

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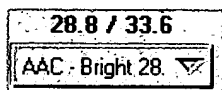
## Creating User Presets

This section explains how to create user presets. You can create a maximum of five user presets per data rate. After you create a user preset, you can access it from the Preview menu or the Context menu.

To create a user preset:

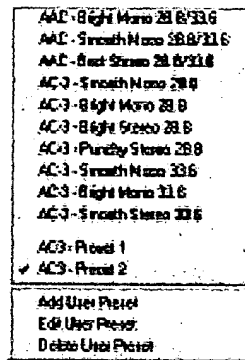
- 1 Open the **Preview** pane.
- 2 Do the following:
  - A) Press **TAB** to select the **Data Rate** you want.

The selected data rate is highlighted.

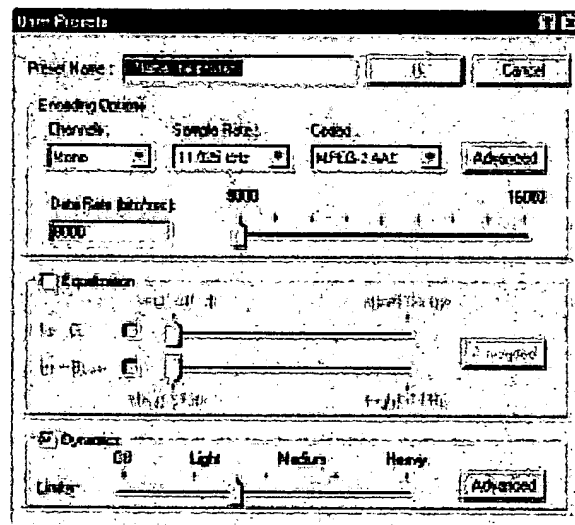


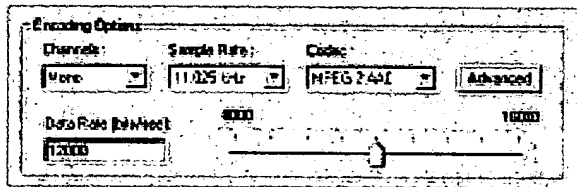
- B) Position the pointer on the **Preset** button below the data rate.
  - C) Press and hold down the left mouse button.

The Preset menu opens. It lists factory presets, user presets, and edit commands.



- 4 On the **Preset** menu, click **Add User Preset**.
- The User Presets window opens.



- 5 Type the **Preset Name**. 1
  - 6 Under Encoding Options, do the following: 2
    - A) In the **Channel** list, click **Mono** or **Stereo**. 3
    - B) In the **Sample Rate** list, click the sample rate you want. 4
    - C) In the **Codec** list, click **Dolby AC-3** or **MPEG-2 AAC**. 5
- Note: MPEG-2 AAC is recommended for use with the lower data rates. 6
- 4 Under **Data Rate**, move the slider to the right to select the data rate you want. 7
- The data rate appears in the Data Rate (bits/sec) field. 8
- 
- 5 Do one of the following: 9
- To set equalization options, go to “Setting Equalization Filters” on page 11-6. 10
  - To set dynamics options, go to “Setting Dynamics Filters” on page 11-8. 11
  - To set advanced encoding options, go to *Chapter 12, Setting Advanced Encoding Options*, for complete information. 12

**Note:** If you don't want to apply any of the advanced encoding options at this time, you don't need to do so. You can always edit the user preset at another time, select the advanced options you want to try out, and then encode an image using the preset.

- To save the user preset, click the **OK** button.

The User Presets window closes. The preset is added to the Preview and Preset menus.

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## Setting Equalization Filters

Equalization refines the tonal quality of the audio image by applying gain to the input signal based on frequency. It is used to modify the frequency response of the signal passing through the equalizer; that is, it modifies the amplitude versus frequency characteristics of audio.

You can apply two types of basic equalization controls:

- **Low Cut**—A filter that makes a basic adjustment to audio tone. It is similar in function the bass control on a stereo system.

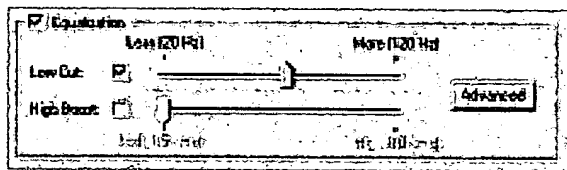
The Low Cut function applies a gain reduction of low frequencies. It allows all frequencies below a specified rolloff frequency to pass and attenuates all frequencies above. It ranges from 20 Hz to 120 Hz.

- **High Boost**—A filter that serves a function similar to that of the treble control on a stereo system. It applies a gain boost of high frequencies. It ranges from 1.5kHz to 10kHz.

## Cutting Low Frequencies

To cut the low frequencies:

- 1 Open the **User Presets** window.
- 2 Select the **Equalization** check box.
- 3 Select the **Low Cut** check box.
- 4 Move the slider to the right to increase the low cut.



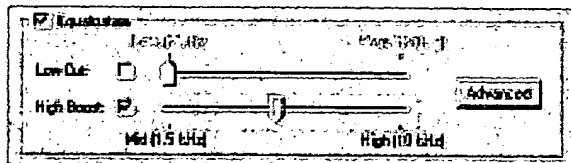
- 5 Click **OK**.

The User Presets window closes. The preset is added to the Preview and Preset menus.

## Boosting High Frequencies

To boost high frequencies:

- 1 Open the **User Presets** window.
- 2 Select the **Equalization** check box.
- 3 Select the **High Boost** check box.
- 4 Move the slider to the right to increase the high cut.



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5 Click **OK**.

The User Presets window closes. The preset is added to the Preview and Preset menus.

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## Setting Dynamics Filters

The Dynamics filters let you make broad adjustments to the peak level of audio.

### Adjusting Audio Levels

To adjust audio levels:

- 1 Open the **User Presets** window.
- 2 Select the **Dynamics** check box.
- 3 Move the **Limiter** slider to the right.
- 4 Select **Light**, **Medium**, or **Heavy**.
- 5 Click **OK**.

The User Presets window closes. The preset is added to the Preview and Preset menus.

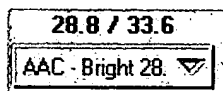
.....

## Editing User Presets

To edit a user preset:

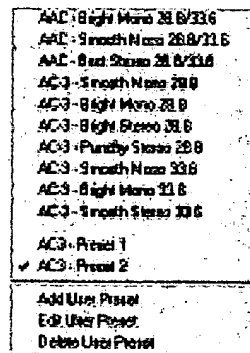
- 1 Open the **Preview** pane.
- 2 Do the following:
  - A) Press **TAB** to select the **Data Rate** you want.

The data rate is highlighted.



- - B) Position the pointer on the **Preset** button below the data rate.
  - C) Press and hold down the left mouse button.

The Preset menu opens. It lists factory presets, user presets, and edit commands.





- 4 Do the following:
    - A) On the **Preset** menu, click the user preset you want to edit.
    - B) On the **Preset** menu, click **Edit Preset**.The User Presets window opens.
  - 3 Under Output Options, do the following:
    - A) In the **Channel** option, click **Mono** or **Stereo**.
    - B) In the **Sample Rate** list, click the sample rate you want.
    - C) In the **Codec** list, click **Dolby Digital AC3** or **MPEG-2 AAC**.
  - 4 (Optional) Under **Adjust Output Data Rate**, move the slider to the right to select the data rate you want.

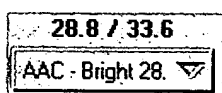
The data rate appears in the Data Rate (bits/sec) field.
  - 5 Click the **OK** button.
- The User Presets window closes. The preset is added to the Preview and Preset menus.

## Deleting User Presets

To delete a user preset:

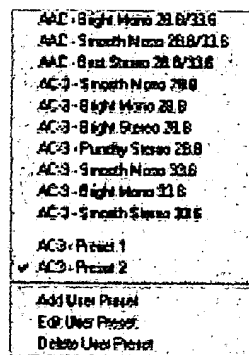
- 1 Open the **Preview** pane.
- 2 Do the following:
  - A) Press **TAB** to select the **Data Rate** you want.

The data rate is highlighted.



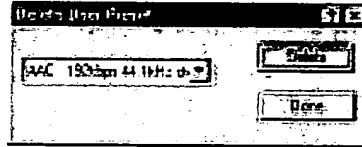
- B) Position the pointer on the **Preset** button below the data rate.
  - C) Press and hold down the left mouse button.

The Preset menu opens. It lists factory presets, user presets, and edit commands.



- 4 On the **Preset** menu, click **Delete Preset**.

The Delete User Preset window opens.



- 5 In the list, click the preset you want to delete.

- 6 Click the **Delete** button.

The preset is deleted.

- 7 Click the **Done** button.

The Delete Preset window closes. The preset is removed from the Preview and Preset menus. When you delete a user preset, the data rate returns to the default setting.

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## Saving User Presets

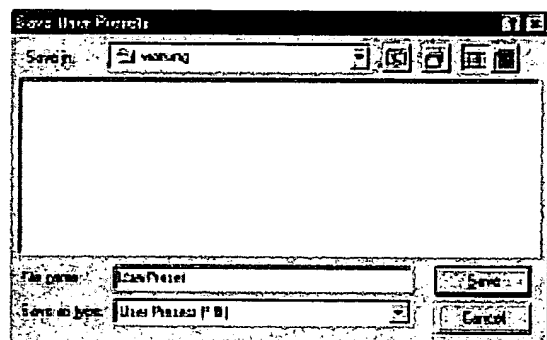
After creating a user preset, you'll want to save it so you can use it to encode a preview image. User presets and the preset settings are saved with Liquifier Audio Workspace files.

If you open up another LAW file, the user presets associated with that file are loaded into the Preview pane. This feature is useful when working in the Batch Liquify pane. It lets you encode audio files using custom presets associated with a specific Liquifier Audio Workspace file.

To save a user preset:

- 1 On the **Preview** menu, click **Save User Preset**.

The Save User Preset window opens.



- 2 In the **Save As Type** list, select **User Presets (.flt)**.

- 3 In the **File Name** box, type a name for the preset.

- 4 Click the **Save** button.

The Save User Presets window closes and the preset is saved in the Liquifier Audio Workspace file.

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## Loading User Presets

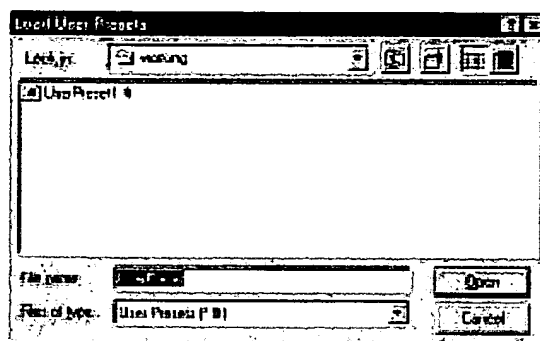
If you saved a user preset in an FLT file and you want to use the preset to encode music, you'll need to load it in the Preview pane.

When you load a user preset at a given data rate, Liquifier Pro clears all current user presets in the window and replaces them with the new user preset you want to load. If the current user presets have not been saved, you are prompted to save them before they are replaced.

To load a user preset:

- 1 Open the **Preview** pane.
- 2 On the **Preview** menu, click **Load User Preset**.

The Load User Presets window opens.



- 3 In the **Files of Type** list, select **User Preset (.flt)** you want.
- 4 In the **Look In** box, click the drive, folder, or Internet location that contains the preset.
- 5 In the folder list, double-click folders until you open the folder that contains the preset you want.
- 6 Double-click the preset you want to open.

The Load User Presets window closes and the preset appears in the Preview and Preset menus.

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Previewing the Equalization and Dynamics Settings	2
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You can preview the Equalization and Dynamics settings without listening to the artifacts of the encoder. This feature processes the source audio through a filter chain, thereby bypassing the selected encoder.	5
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To preview the Equalization and Dynamics filters:	8
1 Open the <b>Preview</b> pane.	9
2 Select the user preset you want to audition	10
3 Press and hold down <b>SHIFT</b> .	11
4 Click <b>Encode</b> .	12
5 Do one of the following:	13
• On the <b>Transport</b> menu, click <b>Play</b> .	14
• On the <b>Transport</b> toolbar, click ►.	15
• Press the <b>SPACEBAR</b> .	16
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Previewing User Presets	18
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To preview the user presets, you'll need to encode an image and then compare the output using other presets you created.	20
Go to <i>Chapter 10, Previewing Audio</i> for complete information. Specifically, refer to "Encoding Preview Images" on page 10-33, "Auditioning Preview Images" on page 10-35, and "Comparing Different Presets" on page 10-37.	21
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# Setting Advanced Encoding Options

## CHAPTER 12

This chapter explains how to set advanced encoding options, such as equalization and dynamics, to fine-tune audio images liquified with the Dolby AC-3 or MPEG-2 AAC encoder. Advanced encoding options are applied to user presets created in the Preview pane.

### ..... Why Set Advanced Encoding Options?

In the course of creating a user preset, you may want to fine-tune the equalization (EQ) or the dynamics of that preset. Liquifier Pro provides separate, full-featured dialog boxes for each of those tasks.

Why should a Liquifier user want to adjust the EQ and dynamics of a user preset? For the same reason that one might create the preset in the first place—to improve the efficiency of audio image encoding and to improve the audio quality of songs that are streamed through the Internet.

The benefits of adjusting EQ and dynamics will be appreciated by Liquid Music Player users who are streaming songs at lower speeds—14.4 Kbps to ISDN1. They will hear higher-quality audio that transmits more efficiently and enhances their enjoyment of your Web site.



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## When to Set Advanced Encoding Options?

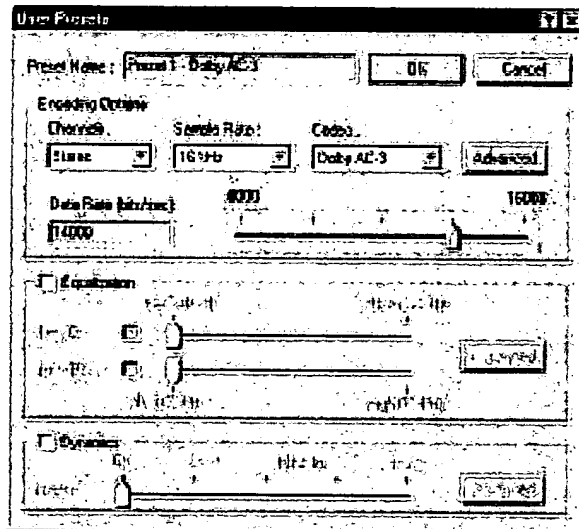
Advanced encoding options apply to user presets that have been created or edited in the Preview pane. They cannot be applied to factory-supplied presets. Refer to *Chapter 11, Creating User Presets*, for complete information on creating user presets. Afterward, return to this chapter to set advanced encoding options to your presets.

## Opening the User Presets Window

To open the User Presets window:

- 1 Open the **Preview** pane.
- 2 Create a user preset.  
*Go to [Chapter 11, Creating User Presets](#) for complete information.*
- 3 On the **Preview** menu, click **Edit User Preset**.

The User Presets window opens.



4 Do one of the following:

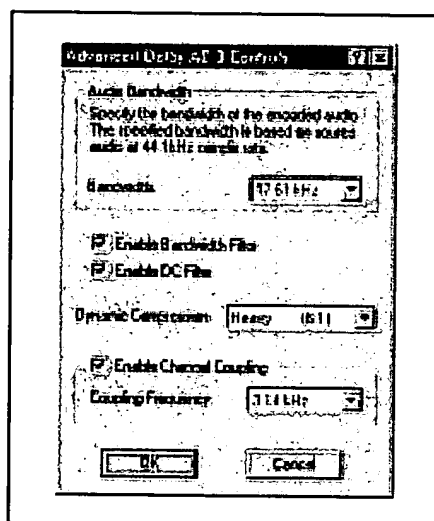
- To set advanced Dolby AC-3 options, go to “Setting Advanced Dolby AC-3 Options” on page 12-4.
- To set advanced MPEG-2 AAC options, go to “Setting Advanced MPEG-2 AAC Options” on page 12-7.
- To set advanced equalization options, go to “Setting Advanced Equalization Options” on page 12-10.
- To set advanced dynamics options, go to “Setting Advanced Dynamic Compression Options” on page 12-20.

## Setting Advanced Dolby AC-3 Options

If you created a user preset using the Dolby AC-3 encoder, you can modify the effects of the encoding algorithm by setting one or more of the advanced options provided in the Preview pane.

### Dolby AC-3 Codec—Advanced Options

Advanced options for the Dolby AC-3 codec are set in the Advanced Dolby AC-3 Controls window, which is accessible through the User Presets dialog box in the Preview pane.



*Preview Pane—Advanced Dolby AC-3 Controls*

This window provides the following options:	1
• <b>Audio Bandwidth</b> —Provides a finite list of bandwidths for specifying the bandwidth of the encoded audio. The maximum audio frequency that can be represented is half the size of the sample rate. For example, given a sample rate of 44.1kHz, the maximum frequency that can be represented in the digital domain is 22.05kHz.	2 3 4 5 6
• <b>Enable Bandwidth Filter</b> —Limits the frequency range represented by the AC-3 codec to the output sample rate. This allows the AC-3 filter to allocate more data in the encoded audio file to the frequency range that matters.	7 8 9
• <b>Enable DC Filter</b> —Reduces DC offset which occurs when an audio signal isn't centered around 0. The presence of a DC offset results in a loss of dynamic range. This command re-centers the waveform, thus removing the DC offset.	10 11 12 13
• <b>Dynamic Compression</b> —Makes overall adjustments to the peak level of audio by applying gain to the input signal. Five options are provided: No Compression, Light, Moderate, Heavy, or Extreme. Gain control of the input signal is scaled according to the power of the output signal. Therefore, different gain is applied depending on the power of the input signal.	14 15 16 17 18
Dynamic compression controls the built-in dynamic compressor in the codec and is applied to the AC-3 algorithm prior to encoding the audio.	19 20
• <b>Enable Channel Coupling</b> —Links the higher frequencies into a mono stream for greater encoding efficiency. This option, which applies to stereo signals going to a stereo output, improves the resolution at the lower frequencies.	21 22 23 24 25

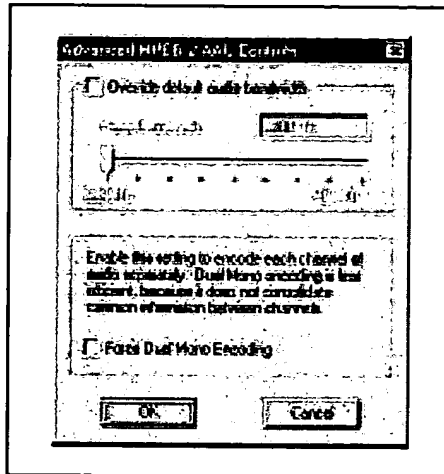
## Setting Advanced Dolby AC-3 options

To set advanced Dolby AC-3 options:

- 1 Open the **User Presets** window.
- 2 Click **Advanced**.

The Advanced Dolby AC-3 Controls window opens.
- 3 In the **Bandwidth** list, select the bandwidth you want.
- 4 To select a **Bandwidth Filter** option, do one of the following:
  - To enable the bandwidth filter, select the **Enable Bandwidth Filter** check box.
  - To disable the bandwidth filter, click to clear the **Enable Bandwidth Filter** check box.
- 5 To select a **DC Filter** option, do one of the following:
  - To enable the DC filter, select the **Enable DC Filter** check box.
  - To disable the DC filter, click to clear the **Enable DC Filter** check box.
- 6 In the **Dynamic Compression** list, select the type of compression you want.
- 7 To select a **Channel Coupling** option, do the following:
  - To enable the channel coupling option, select the **Channel Coupling** check box and then select the coupling frequency you want in the **Coupling Frequency** list.
  - To disable the channel coupling option, click to clear the **Channel Coupling** check box.
- 8 Click **OK**.

The Advanced Dolby AC-2 Controls window closes. The options you selected appear in the Encoding Options group box.	1
9 Click <b>OK</b> .	2
The User Presets window closes. The preset is added to the Preview and Preset menus.	3
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<b>Setting Advanced MPEG-2 AAC Options</b>	8
If you created a user preset using the MPEG-2 AAC encoder, you can modify the effects of the encoding algorithm by setting one or more of the advanced options provided in the Preview pane.	9
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<b>MPEG-2 AAC Codec—Advanced Options</b>	12
Advanced options for the MPEG-2 AAC codec are set in the Advanced MPEG-2 AAC Controls window. This window is accessible through the User Presets dialog box in the Preview pane.	13
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*Preview Pane—Advanced MPEG-2 AAC Controls*

This section explains how to set the following advanced controls for MPEG-2 AAC encoders:

- **Audio Bandwidth**—Specifies the bandwidth for the encoded audio. The maximum audio frequency that can be represented is half the size of the sample rate. For example, given a sample rate of 44.1kHz, the maximum frequency that can be represented in the digital domain is 22.05kHz.
- **Override Audio Bandwidth**—Overrides the default audio bandwidth used by the encoder. Based on a combination of channels and sample rates, the AAC encoder automatically chooses an audio bandwidth to process audio. You can override this default by using the Audio Bandwidth slider to make the audio brighter or quieter. By raising the bandwidth, you increase the higher frequencies, but lower the resolution. By lowering the bandwidth, you have better representation of the lower frequencies.

• <b>Forced Dual Mono Encoding</b> —Typically, the AAC encoder processes the left channel, takes the difference between the left and right channel, and then encodes the difference. Selecting this option causes the encoder to process the left and right channels separately, thereby reducing the occurrence of encoding artifacts between the channels. It only applies to stereo input at the CD-quality data rate.	1 2 3 4 5 6
<b>Setting Advanced MPEG-2 AAC Options</b>	7
To set advanced MPEG-2 AAC options:	8
1 Open the <b>User Presets</b> window.	9
2 Click <b>Advanced</b> .	10
The Advanced MPEG-2 AAC Controls window opens.	11
3 To override the default audio bandwidth, do the following:	12
• Select the <b>Override Default Audio Bandwidth</b> check box.	13
• To increase audio bandwidth, move the slider to the right.	14
• To decrease audio bandwidth, move the slider to the left.	15
The bandwidth you selected appears in the Audio Bandwidth field.	16
4 To encode each channel of audio separately, select the <b>Force Dual Mono Encoding</b> check box.	17
5 Click <b>OK</b> .	18
The Advanced MPEG-2 AAC Controls window closes.	19
The options you selected appear in the Encoding Options group box.	20
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6 Click **OK**.

The User Presets window closes. The preset is added to the Preview and Preset menus.

.....

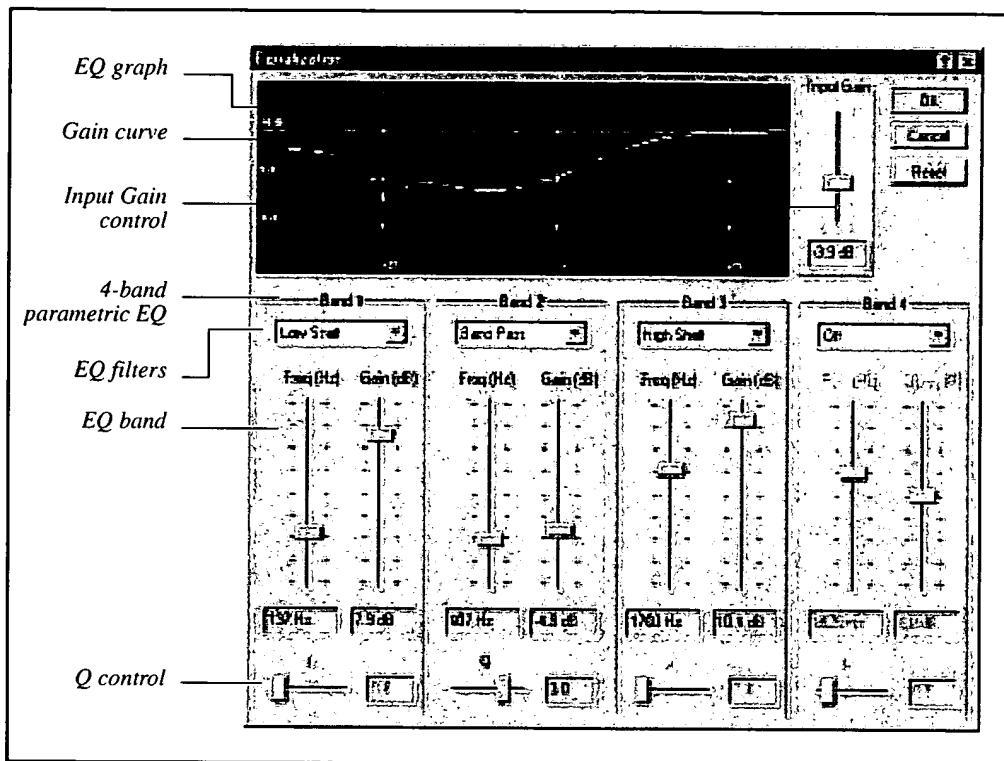
## Setting Advanced Equalization Options

The advanced equalization (EQ) options let you refine the tonal quality of a song or clip image by removing low or high frequencies to enhance a sound. This section describes how to use the Equalization window to apply EQ settings to optimize the quality of audio streamed at lower data rates.

### Equalization Window—Components

Advanced EQ settings are set in the Equalization window in the Preview pane. This window contains the following main components:

- Input Gain control
- EQ graph
- Gain curve
- 4-band parametric EQ with separate filters, frequency, and gain controls



Preview Pane—Equalization Window

## Input Gain

The Input Gain control applies overall gain to the signal irrespective of frequency. The slider, which lets you shift the gain curve up or down without changing its shape, ranges from +12 dB to -12 dB.

## EQ Graph

The EQ graph provides a visual display of the equalization curve. It depicts a gain curve for the equalization across the frequency spectrum. The horizontal axis displays frequency and the vertical axis shows gain in decibels.

1 The horizontal lines in the grid represent 1kHz, 10kHz, and  
2 100kHz. The vertical lines depict +6 dB, 0 dB, and -6  
3 dB. Anything below zero is a gain reduction, anything above  
4 zero is a gain increase, and 0 dB represents no gain.

5 When enabled, the default gray-colored graph displays with a  
6 black background, gray grid, and a **gain curve**. The gain  
7 curve, which appears as a yellow curve in the graph, adjusts  
8 depending on settings selected in the window.

#### 9 **4-Band Parametric EQ**

10 The 4-band parametric EQ (Equalizer) lets you isolate  
11 specific frequency ranges and fine-tune those ranges for  
12 optimal-quality sound. It is used to change the tone of the  
13 incoming signal by boosting (turning up) or cutting (turning  
14 down) certain frequencies. Using EQ, you can emphasize  
15 certain frequencies and cut frequencies that contain noise or  
16 unwanted sound. EQ can compensate for codecs which  
17 produce frequencies that are not as loud after encoding.

#### 18 **EQ Bands**

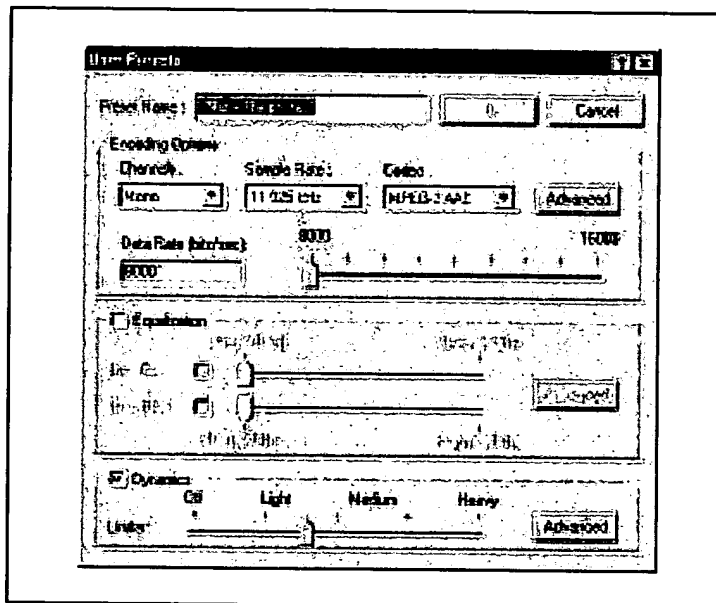
19 Each band in the Parametric EQ supplies individual  
20 frequency and gain controls, a band pass setting with Q, and  
21 high/low shelving settings. You can adjust the center  
22 frequency, the bandwidth, and the gain/attenuation amount  
23 separately for each of the four bands. This allows to adjust  
24 the amplitude of each band, shift the center frequency, and  
25 widen or narrow the effected area. In addition, any band can  
be individually adjusted or ganged as stereo-pairs.

For example, to increase the amount of high frequency audio  
while simultaneously reducing the amount of low frequency  
audio in a particular sound, you can set the frequency of one  
band to a high frequency and a positive gain value, while  
simultaneously setting another band to a low frequency and a  
negative gain value.

<b>EQ Filters</b>	1
Liquifier Pro provides a number of filters for modifying audio using an EQ band.	2
	3
• <b>Off</b> —Disables the filter options for an EQ band.	4
• <b>Low Shelf</b> —A filter that applies gain increase or reduction below a given frequency. Depending on the settings selected, it can either amplify or reduce certain frequencies in the signal.	5
	6
	7
• <b>Band Pass</b> —A filter that applies the gain increase or reduction at a specific frequency. It prohibits all but a specific range of frequencies to pass through it. When the band pass filter is selected, the <b>Q</b> (Quality Factor) filter is also enabled.	8
	9
	10
	11
• <b>Q</b> —A filter that adjusts the ratio of the center frequency to the bandwidth. The higher the <b>Q</b> , the narrower the filter and the lower the <b>Q</b> , the wider the filter. It is only enabled when Band Pass is selected.	12
	13
	14
• <b>High Shelf</b> —A filter that applies gain increase or reduction above the specific frequency that is selected. Depending on the settings selected, it can either amplify or reduce certain frequencies in the signal.	15
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## Interaction between Basic and Advanced Equalization Options

The User Presets window provides a number of basic Equalization options that you can use to adjust the effects of an encoder.



Preview Pane—User Presets Window

If you also apply advanced equalization options, the settings are modified as follows.

### **Low Cut**

When enabled, the Low Cut option modifies the first EQ band in the Equalization window to be a Low Shelf filter with a gain of -12 dB at the specified frequency. If you adjust the first band in the Equalization window, then the Low Cut control will be disabled if the filter type is not Low Shelf, the gain is positive, or the frequency is above 120 Hz.

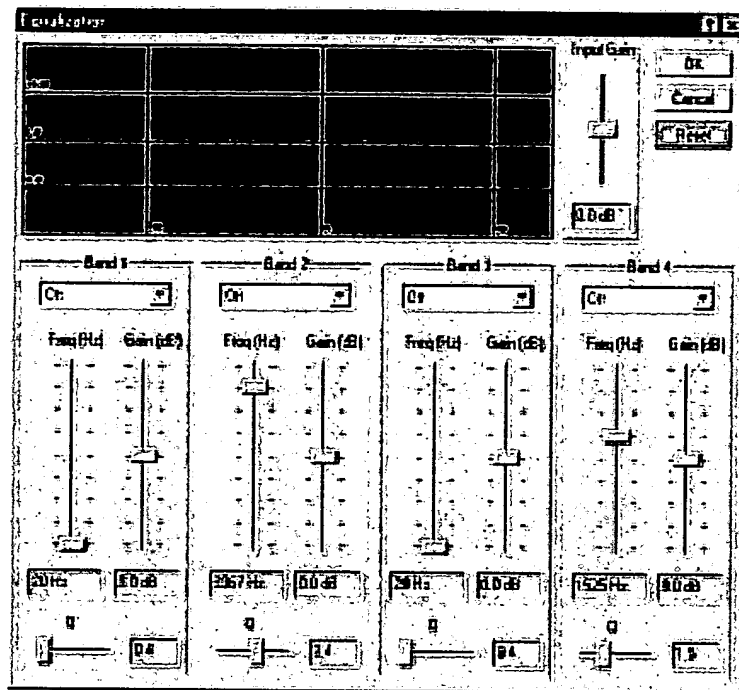
### **High Boost**

When enabled, the High Boost option modifies the fourth EQ band in the Equalization window to be a Bandpass filter with a gain of +3 dB and a Q of 1.5 at the specified center frequency (where Q is the ratio of center frequency to -3dB bandwidth). If you adjust the fourth band in the window, then the High Boost control will be disabled if the filter type is not Band Pass, the gain is negative, or the frequency is below 1.5 kHz.

### **Opening the Equalization window**

To open the Equalization window:

- 1    Open the **User Presets** window.
  - 2    Under **Equalization**, click **Advanced**.
- The Equalization window opens.



- 3 Do one of the following:
  - To roll off high frequencies, go to “Rolling Off High Frequencies” on page 12-17.
  - To modify input gain, go to “Adjusting Input Gain” on page 12-19.
  - To reset EQ settings, go to “Resetting EQ Options” on page 12-20.

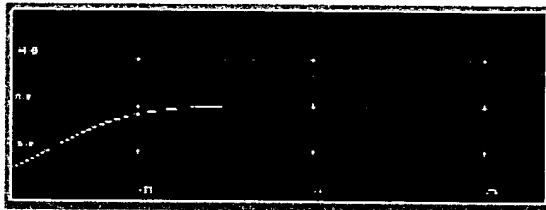
## Rolling Off High Frequencies

Rolling off the high frequencies is one of the most common uses of the Equalization window. When applied to the lowest data rates, it will greatly enhance the sound quality of songs streamed using 14.4, 28.8, 33.6, or 56 Kbps modems.

To roll off the high frequencies:

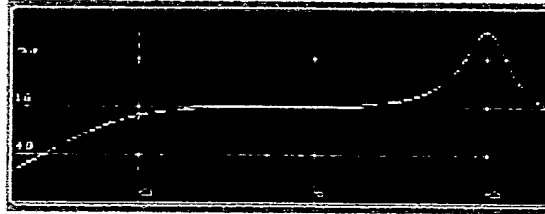
- 1 Open the **Equalization** window.
- 2 Under **Band 1**, do the following:
  - A) In the **Band** menu, select **Low Shelf**.
  - B) Move the **Freq** slider to the lowest setting; **20 Hz**.
  - C) Move the **Gain** slider to the lowest setting; **-12 dB**.

The EQ graph adjusts to the new settings.



- 4 Under **Band 2**, do the following:
  - A) In the **Band** menu, select **Band Pass**.
  - B) Move the **Q** slider to the right and select **2.5**.
  - C) Move the **Gain** slider up to **9.5 dB**.
  - D) Move the **Freq** slider down to the lowest setting, and then slide it back up until the EQ curve resembles the following illustration.





E) Continue to move the **Freq** slider up until the EQ curve is centered around the target cut-off frequency.

This adjustment will enhance the high frequencies and minimize the low frequencies of the audio selection. Refer to Table 12-1 on page 12-19 as a guideline for making your adjustments.

6 Click **OK**.

The Equalization window closes

7 Click **OK**.

The User Presets window closes. The preset is added to the Preview and Preset menus.

**Table 12–1: Rates for Rolling Off High Frequencies**

<b>Data Rate</b>	<b>Cut-off Frequency (sample rate)</b>
14.4 Mono	8
28.8 Mono	11.025
28.8 Stereo	8
ISDN1 Mono	22.050
ISDN1 Stereo	16
ISDN2 Stereo	32
CD-128	44.1
CD-192	44.1
CD-256	44.1

### **Adjusting Input Gain**

To apply an overall gain to the signal irrespective of frequency, use the Input Gain slider. The slider lets you select ranges from to +12 dB to -12 dB.

To adjust input gain:

- 1 Open the **Equalization** window.
- 2 Under **Input Gain**, move the slider up or down to adjust the gain.
- 3 Click **OK**.  
The Equalization window closes
- 4 Click **OK**.  
The User Presets window closes.

The User Presets window closes. The preset is added to the Preview and Preset menus.

### Resetting EQ Options

Resetting EQ options clears all settings in the Equalization window and returns to their default states.

To reset EQ options:

- On the **Equalization** window, click **Reset**.

### Canceling EQ Options

Canceling EQ options cancels all settings in the Equalization window and closes the window.

To cancel EQ options:

- On the **Equalization** window, click **Cancel**.

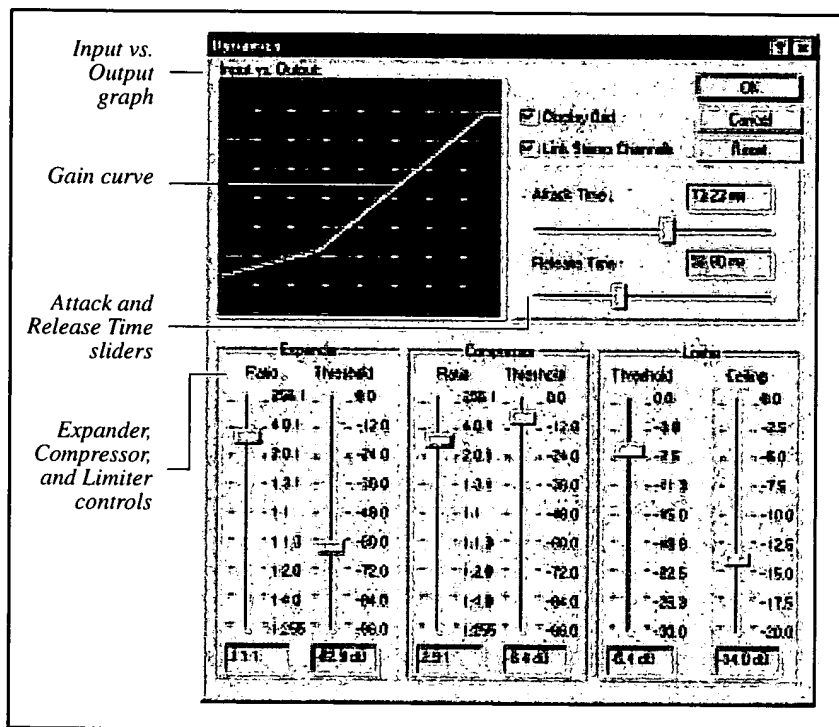
## Setting Advanced Dynamic Compression Options

The advanced dynamic compression options control the dynamic range, or difference between the loudest and softest sounds in a song or clip.

This section describes how to apply gain to an audio signal based on the input signal power. Advanced dynamic compression settings are set in the Dynamics window in the Preview pane.

The Dynamics window contains the following main components:

- Input vs. Output graph
- Gain curve
- Attack and Release Time sliders
- Expander
- Compressor
- Limiter



Preview Pane—Dynamics Window

## **Input vs. Output Graph**

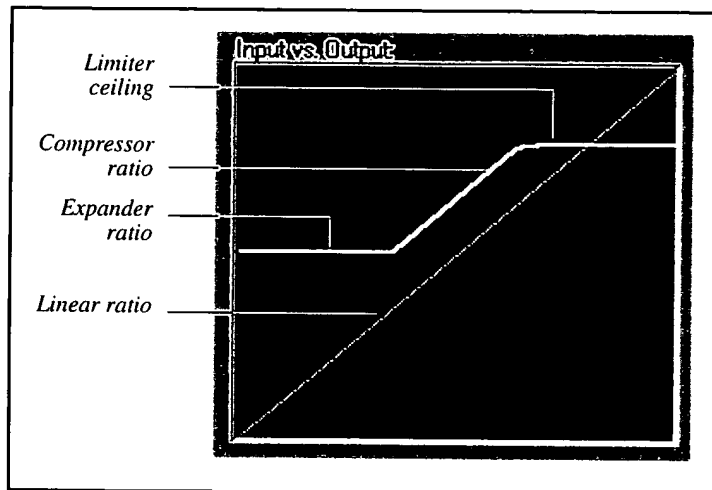
The Input vs. Output graph provides a visual display of the settings selected in the Dynamics window. It shows the ratio of the loudest (undistorted) signal to that of the quietest (discernible) signal expressed in decibels. The graph represents dynamic range, also known as the signal-to-noise (S/N) ratio.

The graph is divided into a 12 dB grid, which can be toggled on or off using the **Display Grid** option. The horizontal axis represents audio input and the vertical axis shows audio output. When the output is the same as the input, you have a one-to-one ratio, as illustrated by the diagonal line in the graph.

## **Gain Curve**

The gain curve is represented as a yellow curve in the Input vs. Output graph. It adjusts according to the settings selected in the Dynamics window.

The gain curve is divided into four sections. Each section corresponds to the following break points: Expander ratio, Linear ratio, Compressor ratio, and Limiter ceiling.



*Dynamics Window—Gain Curve*

## Link Stereo Channels

The Link Stereo Channels option gangs the left and right channel to provide a consistent stereo image when gains differ between channels. It applies the same gain to both channels.

## Attack and Release Time

**Attack Time** keeps track of how fast the input signal power level increases until it reaches your target gain. It is applied when the input signal is rising. The minimum attack time is 1 millisecond and the maximum time is 100 milliseconds.

**Release Time** tracks the rate of change when the input signal power level decreases. It is applied when the input signal is dropping. The minimum release time is 10 milliseconds and the maximum time is 1000 milliseconds.

The Attack and Release Time are set using sliders in the Dynamics window.

## **Expander**

The Expander controls the dynamic range, or difference between the loudest and softest sounds in the audio. It functions as a signal processing device that increases the dynamic range of the signal passing through it.

The Expander can be used as a noise gate by removing background noise from the quietest passages in a song or clip. Alternatively, it can be used to remove Notch/Hum noise; the humming sound that can get introduced into an audio clip by low-quality or improperly shielded cables.

The Expander applies a gain ratio (reduction) to the input signal below the specified threshold. The ratio ranges from 1:255 to 255:1. The threshold range is -96 dB to 0 dB. The upper limit of the Expander's threshold corresponds to the Compressor's threshold.

## **Compressor**

Similar to the Expander, the Compressor also controls the difference between the loudest and softest sounds. However, the Compressor reduces the dynamic range of the signal passing through it by suppressing specific frequencies and waveforms. The ratio ranges from 1:255 to 255:1. The threshold range is -96 dB to 0 dB. The upper limit of the Compressor's threshold corresponds to the threshold of the Limiter.

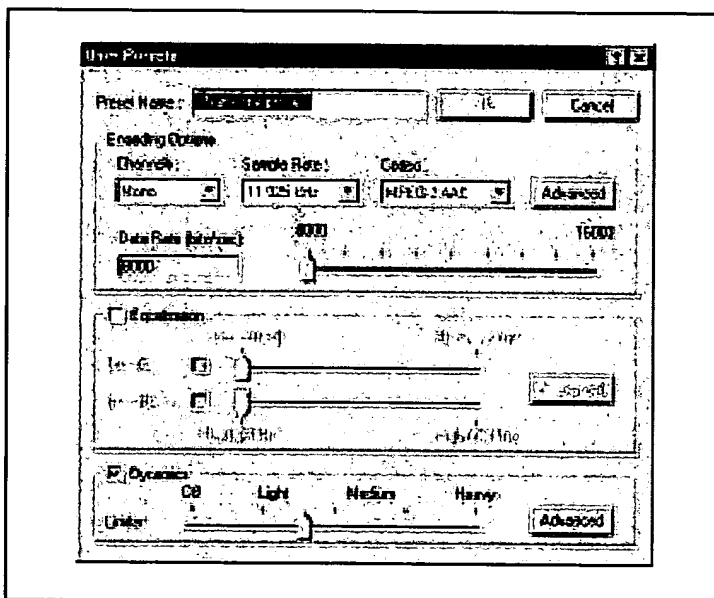
## **Limiter**

The Limiter is a type of compressor that has a fixed ratio of 10:1 or greater. The dynamic action effectively prevents the audio signal from becoming any larger than the threshold setting. The Limiter is most often used to prevent clipping in audio images.

The range of the Limiter threshold is -30 dB to 0 dB. The Limiter Ceiling represents the gain applied when the input power level is 0 dB. It ranges from -20 dB to 0 dB.

## Interaction between Basic and Advanced Dynamic Compression Options

The User Presets window provides a number of basic Dynamics options that you can use to adjust the effects of an encoder.



Preview Pane—User Presets Window

If you also apply advanced dynamics options, the settings are modified as follows.



## **Limiter Threshold**

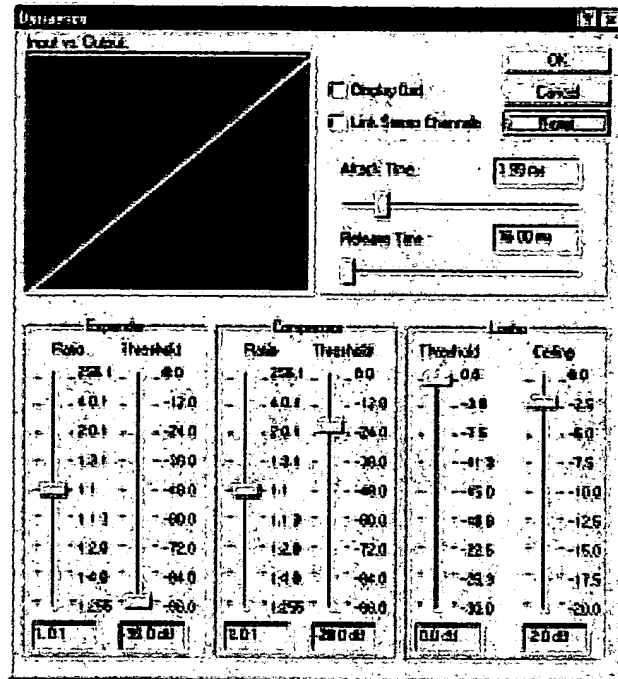
The Limiter Threshold translates directly to the Limiter Threshold control in the Dynamics window. When this control is used, the default Limiter Ceiling is -2 dB. Expansion and Compression are bypassed. You can adjust any of the parameters in the Dynamics window and the Limiter Threshold control in the User Presets window will track the threshold control in the Dynamics window.

## **Opening the Dynamics Window**

To open the Dynamics window:

- 1 Open the **User Presets** window.
- 2 Under **Dynamics**, click **Advanced**.

The Dynamics window opens.



- 3 Do one of the following:
  - To gang stereo channels, go to “Linking Stereo Channels” on page 12-28.
  - To change attack and release time, go to “Changing the Attack and Release Time” on page 12-28.
  - To reduce background noise, go to “Reducing Background Sound and Noise” on page 12-30.
  - To increase loudness, go to “Increasing Audio Loudness” on page 12-31.

## Linking Stereo Channels

Link Stereo Channels setting is used to keep a consistent stereo image. It can correct the situation in which one channel gets more gain reduction than the other, causing listeners to perceive the image as shifting around the stereo field.

To link stereo channels:

- 1 Open the **Dynamics** window opens.
- 2 Select the **Link Stereo Channels** check box.
- 3 Click **OK**.

The Dynamics window closes.

- 4 Click **OK**.

The User Presets window closes.

The User Presets window closes. The preset is added to the Preview and Preset menus.

## Changing the Attack and Release Time

To change the attack and release time:

- 1 Open the **Dynamics** window.
- 2 To change the attack time, do the following:
  - To increase the attack time, move the **Attack Time** slider to the right.
  - To decrease the attack time, move the **Attack Time** slider to the left.

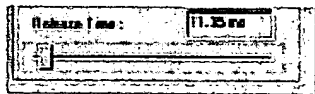
The time you selected appears in the Attack Time field.

It displays in milliseconds.



- 3 To change the release time, do the following:
- To increase the attack time, move the **Release Time** slider to the right.
  - To decrease the attack time, move the **Release Time** slider to the left.

The time you selected appears in the Release Time field. It displays in milliseconds.



- 4 Click **OK**.

The Dynamics window closes.

- 5 Click **OK**.

The User Presets window closes.

The User Presets window closes. The preset is added to the Preview and Preset menus.

## Reducing Background Sound and Noise

To reduce background sound and noise:

1 Open the **Dynamics** window.

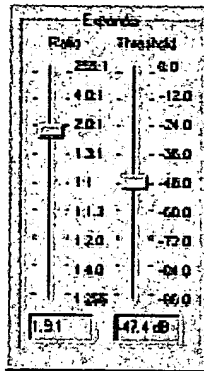
2 Under **Expander**, do the following:

- Move the **Ratio** slider to the increment you want.

The increment you selected appears in the Ratio field.

- Move the **Threshold** slider to the threshold you want.

The threshold you selected appears in the Threshold field. It displays in decibels.



Any adjustments you make also appear in the Input vs. Output window.

3 Click **OK**.

The Dynamics window closes.

4 Click **OK**.

The User Presets window closes.

The User Presets window closes. The preset is added to the Preview and Preset menus.

## Increasing Audio Loudness

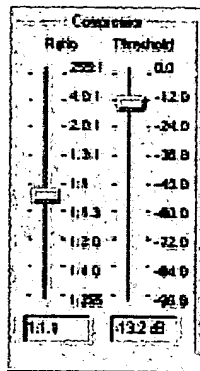
To increase audio loudness:

- 1 Open the **Dynamics** window.
- 2 Under **Compressor**, do the following:
  - Move the **Ratio** slider to the increment you want.

The increment you selected appears in the Ratio field.

- Move the **Threshold** slider to the threshold you want.

The threshold you selected appears in the Threshold field. It displays in decibels.



Any adjustments you make also appear in the Input vs. Output window.

- 3 Click **OK**.  
The Dynamics window closes.
- 4 Click **OK**.

The User Presets window closes.

The User Presets window closes. The preset is added to the Preview and Preset menus.

## Reducing Audio Peaks to Prevent Clipping

To reduce audio peaks:

1 Open the **Dynamics** window.

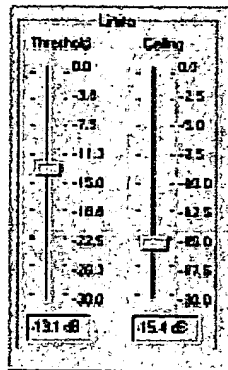
2 Under **Limiter**, do the following:

- Move the **Ratio** slider to the increment you want.

The increment you selected appears in the Ratio field.

- Move the **Threshold** slider to the threshold you want.

The threshold you selected appears in the Threshold field. It displays in decibels.



Any adjustments you make also appear in the Input vs. Output window.

3 Click **OK**.

The Dynamics window closes.

4	Click <b>OK</b> .	1
	The User Presets window closes.	2
	The User Presets window closes. The preset is added to the Preview and Preset menus.	3
		4
	<b>Resetting Dynamics Options</b>	5
	Resetting Dynamics options clears all settings in the Dynamics window and returns to their default states.	6
		7
	To reset Dynamics options:	8
	► On the <b>Dynamics</b> window, click <b>Reset</b> .	9
		10
	<b>Canceling Dynamics Options</b>	11
	Canceling Dynamics options cancels all settings in the Dynamics window and closes the window.	12
		13
	To cancel Dynamics options:	14
	► On the <b>Equalization</b> window, click <b>Cancel</b> .	15
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	.....	17
	<b>Previewing the Equalization and Dynamics Settings</b>	18
		19
	You can preview the Equalization and Dynamics settings without listening to the artifacts of the encoder. This feature processes the source audio through a filter chain, thereby bypassing the selected encoder.	20
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To preview the Equalization and Dynamics settings:

- 1 Open the **Preview** pane.
- 2 Select the user preset that contains the Equalization and Dynamics options you want to audition.
- 3 Press and hold down **SHIFT**.
- 4 Click **Encode**.
- 5 Do one of the following:
  - On the **Transport** menu, click **Play**.
  - On the **Transport** toolbar, click ► .
  - Press the **SPACEBAR**.

.....

## Previewing Advanced Encoding Options

To audition the advanced encoding options, you'll need to encode an image and then compare the output using other presets you created. Go to *Chapter 10, Previewing Audio* for complete information. Specifically, refer to "Encoding Preview Images" on page 10-33, "Auditioning Preview Images" on page 10-35, and "Comparing Different Presets" on page 10-37.

# *Liquifying Individual Files*

This chapter explains how to use the Liquify pane to prepare, compress, and encode an individual audio image for streaming, downloading, or purchase over the Internet.

.....

## What is Liquifying?

The process of compressing and encoding audio, referred to as liquifying, results in a Liquid Master file (.lqm) that contains clip and song images. The clip and song images are available at different data rates for access by consumers over the Internet. A single image can be selected for encryption to provide secure download.

The Liquid Master is published to a Liquid Music Server and made accessible to consumers through links on the Internet. The links provide a path for streaming and downloading the content in the Liquid Master.

When content is downloaded through the Liquid Music Player, it is stored on the consumer's computer as a Liquid Track. A Liquid track is a proprietary file format that is used by the Liquid Music Player.

The Liquid Music Player creates a Liquid Track only when music is downloaded. When music is streamed from a server, Liquifier Pro does not create Liquid Tracks.

CHAPTER	
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## What Else Can You Do?

The Liquify pane enables you to encode individual audio images that can be streamed, downloaded, or purchased on the Internet.

If you have multiple audio images you want to encode, you can do so quickly and easily using the batch liquify function. After you have prepared individual files for encoding using the procedures in this chapter, refer to *Chapter 14, Liquify Batched Files*, for complete information on using the batch liquify function.

## A Tour of the Liquify Pane

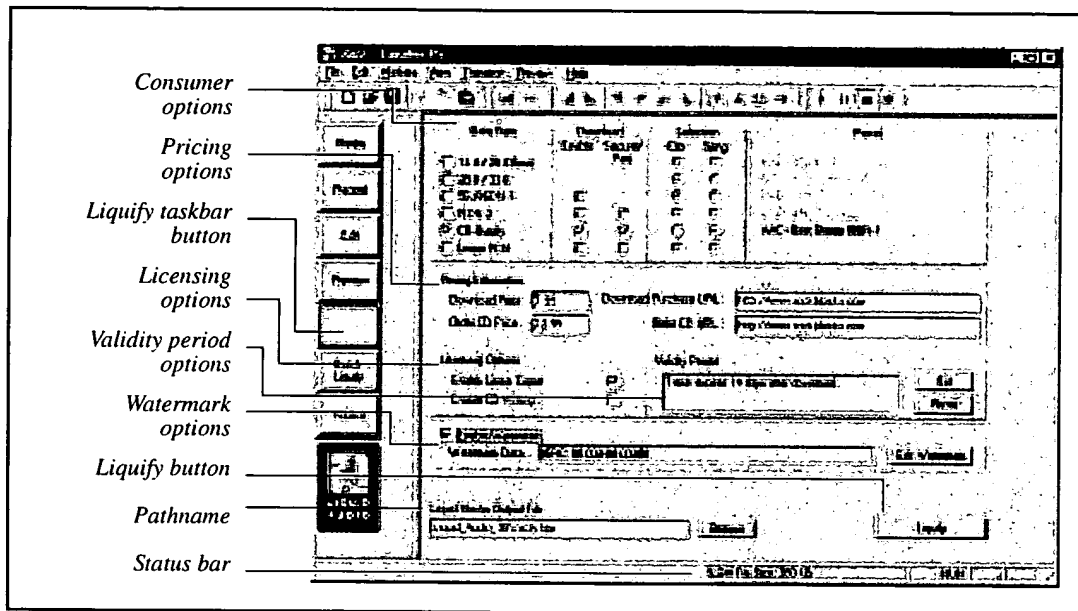
The Liquify pane is used to encode audio so it can be streamed, downloaded, or purchased on the Internet.

### Liquify Pane—Functions

The Liquify pane lets you perform the following functions:

- Encode audio using presets you selected in the Preview pane.
- Specify options enabling consumers to stream, download, or purchase audio.
- Set price information for buying audio.
- Select licensing options for playback, linear export, or burning audio to CD.
- Apply watermarks to track unauthorized sale or distribution of audio.

<b>Liquify Pane—Components</b>	1
The Liquify pane furnishes the following components:	2
• <b>Liquify taskbar button</b> —Opens the Liquify pane in Liquifier Pro.	3
	4
• <b>Data Rates</b> —Selects the data rates at which the consumer can stream or download audio.	5
	6
• <b>Download</b> —Enables the consumer to download audio over the Internet.	7
	8
• <b>Selection</b> —Applies the Liquify options to a song or clip image.	9
	10
• <b>Presets</b> —Lists the presets you selected in the Preview pane.	11
	12
• <b>Pricing Information</b> —Establishes the price for purchasing Liquid tracks or ordering CDs.	13
	14
• <b>Licensing Options</b> —Specifies whether your music can be exported to other computer platforms or burned to a CD.	15
	16
• <b>Validity Period</b> —Sets the period of time in which consumers can play back downloaded audio that is offered as a free sample over the Internet.	17
	18
• <b>Enable Watermark</b> —Embeds an inaudible data stream in the audio file to track unauthorized use of the music.	19
	20
• <b>Liquid Master Output File</b> —Displays the name of the Liquid Master file and the path where it will be saved after it is liquified.	21
	22
• <b>Liquify button</b> —Compresses, encodes, and saves the source audio as a Liquid Master file.	23
	24
• <b>Status bar</b> —Displays the size of the Liquid Master file, which includes all options and images selected in the Liquify pane.	25



Liquify Pane—Components

## Consumer Options

Consumer options, which appear at the top of the Liquify pane, allow you to specify whether clip or song images are available for streaming, downloading, or purchasing over the Internet. These options include Data Rate, Enable, Selection, and Presets.

Data Rate	Download		Selection		Presets
	Enable	Secure/ Read	On	Song	
<input type="checkbox"/> 14.4/28.8 (low)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	14.4/28.8 (low)
<input type="checkbox"/> 28.8/33.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	28.8/33.6
<input type="checkbox"/> 56/ISDN-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	56/ISDN-1
<input type="checkbox"/> ISDN-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	ISDN-2
<input type="checkbox"/> CD-Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	CD-Quality
<input type="checkbox"/> Linear PCM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	Linear PCM

*Liquify Pane—Consumer Options*

## Data Rate Options

The Liquify pane provides six data rate options:

- 14.4/28.8 (low)
- 28.8/33.6
- 56/ISDN-1
- ISDN-2
- CD-Quality
- Linear PCM

The first five data rates correspond to presets selected in the Preview pane. The low data rates, 14.4/28.8 and 28.8/33.6, are primarily used for streaming audio. The moderate data rates, 56/ISDN-1 and ISDN-2, are used for local previews of audio. The high data rate is used to download an image from the Liquid Music Server the consumer's computer.

The last data rate, Linear PCM, lets users with access to the Liquid Express Player download the original uncompressed file. It is intended for professional users with special post-production applications. Linear PCM files can be encrypted for secure transfer among users.

Before you liquify a file, you must select a data rate. Selecting a data rate causes Liquifier Pro to encode the audio image in the Liquid Master File. You can choose as many data rates as available. Each data rate corresponds to an audio image that increases the size of the Liquid Master file accordingly.

### Download Options

The Download options determine how audio is offered for downloading over the Internet. Two options are available:

- **Enable Option**—The Enable option allows the consumer to download an image from the Liquid Music Player to his computer.
- **Secure/Paid Option**—The Secure/Paid option allows the consumer to download and purchase an encrypted audio image from the Liquid Music Player. If this option is selected, the Enable option is automatically selected. You can only select one Secure/Paid image for encryption. The image defaults to the song. Generally, you will want to select the CD-Quality data rate for paid audio images.

### Selection Options

The Selection options let you choose whether to include a clip or a song at a particular data rate in the LQM file. If you select a song, the clip is automatically included with it. Generally, the clip is used for previews and the song is used for purchase.

### Presets

The Presets group box shows the presets selected in the Preview pane. All options are laid out as rows and columns where all options in a row apply to the data rate in that row.

Thus, each preset corresponds to a data rate across the current row.

## Pricing Options

If you want to offer music for sale over the Internet, you need to enter pricing information for purchasing or ordering Liquid Tracks. Two options are provided for establishing prices for consumers:

- Download Price
- Order CD Price

Data Rate	Downloaded	Selection	Format
<input type="checkbox"/> 14.4 / 28.8 (Kbps)	<input type="checkbox"/> Enable	<input type="checkbox"/> Clip	<input type="checkbox"/> MP3
<input type="checkbox"/> 32.0 / 64.0	<input type="checkbox"/> Secure/Paid	<input type="checkbox"/> Song	<input type="checkbox"/> AAC
<input type="checkbox"/> 64.0 / 128.0			<input type="checkbox"/> WMA
<input type="checkbox"/> 128.0 / 256.0			<input type="checkbox"/> Linear PCM
<input checked="" type="checkbox"/> CD Quality			
<input type="checkbox"/> Linear PCM			

Pricing Information	
Download Price : 50	Download Purchase URL : <a href="http://www.melodics.com">http://www.melodics.com</a>
Order CD Price :	Order CD URL :

*Liquify Pane—Pricing Information Options*

### Download Price Option

Download Price establishes the cost to consumers for downloading a Liquid Track to their computer system. This option, which is enabled after you select a data rate for secure download, sets the price for the downloaded audio image in the LQM file.



Note: The format of pricing information is dependent on the Liquid Music Server configuration. Please check with your server administrator for specific information on the format of the download price.

### **Order CD Price Option**

The Order CD Price option establishes a price for a physical CD that is delivered through the standard mail service. The CD is ordered through a URL on the Internet and mailed to the consumer, rather than downloaded from a server.

You might want to select this option, for example, if your music is represented by an independent record label on a web site, or distributed by a local band with a home page on the World Wide Web.

Many members of the Liquid Music Network offer music for sale using this method. The Liquid Music Network can be found on the most popular music and life-style sites on the Web.

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### **Licensing Options**

Licensing options let you specify how your audio can be used once it is downloaded from a Liquid Music Server. The options are:

- Enable Linear Export
- Enable CD Writing

The Licensing options are enabled in the Liquify pane when you select the Enable or Secure/Paid option in the Download group box. You can choose to select either option or both the Enable Linear Export and Enable CD Writing options.

Data Rate	Download	Secure/ Paid	Selection	Price
	Enable		CD	Song
<input type="checkbox"/> 14.4 / 28.8 (low)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> 28.8 / 33.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> 56 / EON-3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> 6544-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/> CD-Quality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/> Linear PCM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>

Pricing Information	
Download Price: 1.99	Download Purchase URL: <a href="http://www.rockblock.com">http://www.rockblock.com</a>
Order CD Price:	Order CD URL:

Licensing Options	Validity Period
<input checked="" type="checkbox"/> Enable Linear Export <input type="checkbox"/> Enable CD Writing	No Time Restrictions <input type="button" value="Set"/> <input type="button" value="Reset"/>

*Liquify Pane—Licensing Options*

## Enable Linear Export Option

The Enable Linear Export option lets the consumer download the compressed audio image and save it in linear file format suitable for export to other platforms. The compressed Liquid Track is decoded as an uncompressed linear file that can be saved as a WAV- or AIFF-format file.

If the audio file contains an encrypted image (secure audio image offered for purchase) this option applies only to the encrypted data rate. If the file doesn't contain an encrypted image, this option applies to all images that are enabled for download.

The Enable Linear Export function is provided as a convenience to users with special post-production needs, such as editing uncompressed files on an audio edit workstation. It requires the use of the Liquid Express Player to decode the compressed Liquid Track.

## **Enable CD Writing**

The Enable CD Writing option allows the consumer to download the Liquid Track to his system and then burn it to a CD.

Choosing this option lets consumers create their own compilation CDs. With the use of a CD recorder, they can select the music tracks of his choice from the Liquid Music Player and write them to a CD. This option only applies to song images; clips cannot be burned to CD.

If the audio file contains an encrypted image (secure audio image offered for purchase) this option applies only to the encrypted data rate. If the file doesn't contain an encrypted image, this option applies to all images that are enabled for download.

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## **Validity Period Options**

The Validity Period option lets you establish the period of time in which consumers can play back audio after it is downloaded from a server.

This option is intended for use by artists who want to promote a new track for a limited period of time. For example, you can set a validity period to start on the date of a promotional campaign and end on the date the CD is released. Alternatively, you can allow a consumer to play your audio for a limited period of time, such as two weeks, and decide if he wants to purchase the CD.

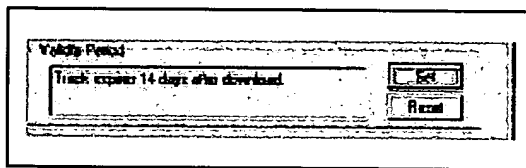
Two options are available:

- Relative Validity
- Absolute Validity

The validity period applies to all options selected in the Liquify pane, including Enable Linear Export, Enable CD Writing, and playback after download (Enable Secure/Paid).

### Relative Validity Option

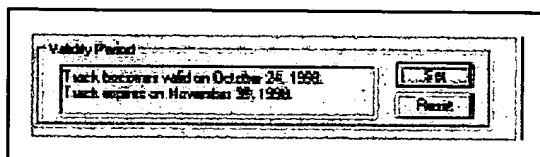
The Relative Validity option restricts the consumer's ability to play a Liquid Track a specified number of days after it is downloaded. The maximum number of days for relative validity is 999.



*Liquify Pane—Relative Validity Period Option*

### Absolute Validity Option

The Absolute Validity option restricts the consumer's ability to play a Liquid Track after a specified date, regardless of when the audio was downloaded.



*Liquify Pane—Absolute Validity Period Option*

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## Watermark Options

A watermark fingerprints an audio image by embedding an inaudible data stream in the image. The data stream is used to track the audio and it does not change the sound quality of the music.

Watermarking provides a means to identify audio that has been sold and distributed by unauthorized users. The use of a watermark is optional; it is not required to encode music.

Approximately one minute of audio is required for a watermark to be embedded in it. The longer the audio, the more robust the watermark. The exact duration is dependent on the source material.

If you decide to watermark an image, note that it greatly increases the time it takes to encode an audio file.

Watermarks can only be applied to downloaded images. Streamed images do not need to be watermarked.

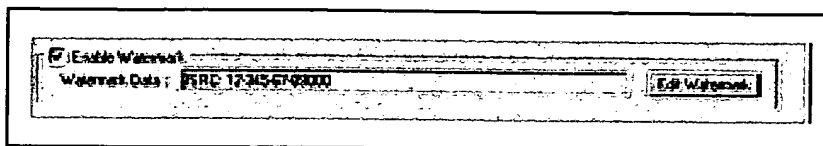
Extracting a watermark from an encoded audio file can only be accomplished by qualified personnel at Liquid Audio.

Two options are available to watermark audio:

- Song Identifier
- User Information

### Song Identifier Option

The Song Identifier option uses the Song ID code from the Media pane as the watermark information.

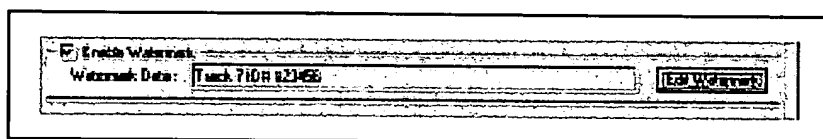


*Liquify Pane—Song Identifier Option*

Note: If the Song ID code is incorrect, you'll need to change it in the Media pane.

### **User Information Option**

The User Information option inserts a personal identification code in the data stream. The code can be a maximum of 18 characters in length.



*Liquify Pane—User Information Watermark Option*

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## **What's the Difference between Streaming and Downloading?**

All audio images in an LQM file are available for streaming as long as they are not encrypted (i.e. secure/paid download). Streaming audio, means that the audio information is sent from the Liquid Music Server to the Liquid Music Player, as requested. Files are not created on disk and if consumers wants to play the audio again, they need to reconnect to the Liquid Music Server to do so.

Download means that selected audio images are sent from the Liquid Music Server to the Liquid Music Player. The player then saves the audio as a Liquid Track on the consumer's hard drive. The consumer can play back the audio at any time, without reconnecting to the server. If the audio is not encrypted (i.e. free download) then the Liquid Track can be passed around among consumers and played back on any Liquid Music Player.

If the audio is encrypted, then the track can only be played on a Liquid Music Player that has the same passport as the player that was used to purchase the track.

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## Scenarios for Liquifying Audio

This section provides an overview of some basic scenarios you can follow for Liquifying audio. You can choose one scenario, or you can combine it with other valid scenarios to offer the end user more choices when accessing audio over the Internet.

The basic scenarios are presented based on whether audio is offered for free or for sale over the Internet.

- **Stream free audio**—Enables the consumer to stream compressed audio over the Internet for free. Most artists offer the 30-second clip as a free preview to showcase their music.
- **Download free audio**—Enables the consumer to download audio for free. The compressed audio is saved to the consumer's hard drive as a Liquid Track.

• <b>Download and export free audio to other platforms—</b>	1
Allows the consumer to download audio for free and save	2
it as a WAV-format or AIFF-format file. This option	3
requires the end user to download and save music using	4
the Liquid Express Player. It is provided primarily for	5
users with special post-production applications.	6
• <b>Download and record free audio to CD—</b> Lets the	7
consumer download audio for free and burn it to a CD	8
using a CD recorder.	9
• <b>Buy audio—</b> Enables the consumer to purchase a Liquid	10
Track. The purchased audio is encrypted. It is downloaded	11
to the Liquid Music Player and saved to the consumer's	12
hard drive. The passport that was used to purchase the	13
Liquid Track is required to play it back. If the consumer	14
doesn't have the correct passport then the download	15
enabled, free clip audio image is played.	16
• <b>Buy audio and export to standard formats—</b> Allows the	17
consumer to purchase a Liquid Track and save the	18
encrypted audio in a standard audio file format such as	19
WAV or AIFF. Once the audio is exported, it is no longer	20
encrypted and can be freely distributed. This option	21
requires the Liquid Express Player and is primarily for	22
users with special post-production applications.	23
• <b>Buy audio and record to CD—</b> Allows the consumer to	24
purchase a Liquid Track and burn it to a CD. This option	25
requires a CD recorder.	
• <b>Buy CD—</b> Enables the consumer to order a CD containing	
selected Liquid Tracks from a web site. The CD is mailed	
to the user through the postal service.	
Procedures for enabling these options are provided in	
subsequent sections of this chapter.	



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## Before You Begin

Before creating a Liquid Master file in the Liquify pane, you need to complete the following tasks:

- Select the source audio file you want to liquify. You must open the file in Edit pane; you cannot open the file in the Liquify pane. Be sure to load the file that contains the final song and/or clip image you selected for encoding.
- Set the location of the clip and song markers, and any additional fades, in the audio file.
- Enter media information, such as text and graphics, that you want to associate with the audio.
- Select the preset at each data rate that you want to use for encoding.

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## Opening the Liquify Pane

To open the Liquify pane:

- 1 Start **Liquifier Pro**.
- 2 Do one of the following:
  - On the **View** menu, click **Liquify pane**.
  - On the **Liquifier Pro** taskbar, click **Liquify**.

The Liquify pane opens on your desktop.

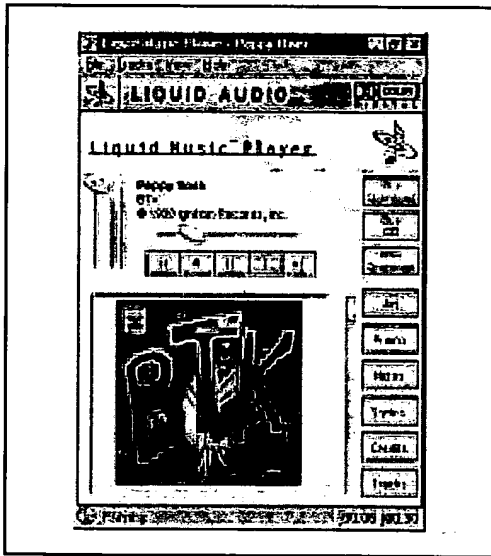
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## Enabling Options to Stream Free Audio

Follow this procedure to enable the consumer to stream compressed audio over the Internet for free.

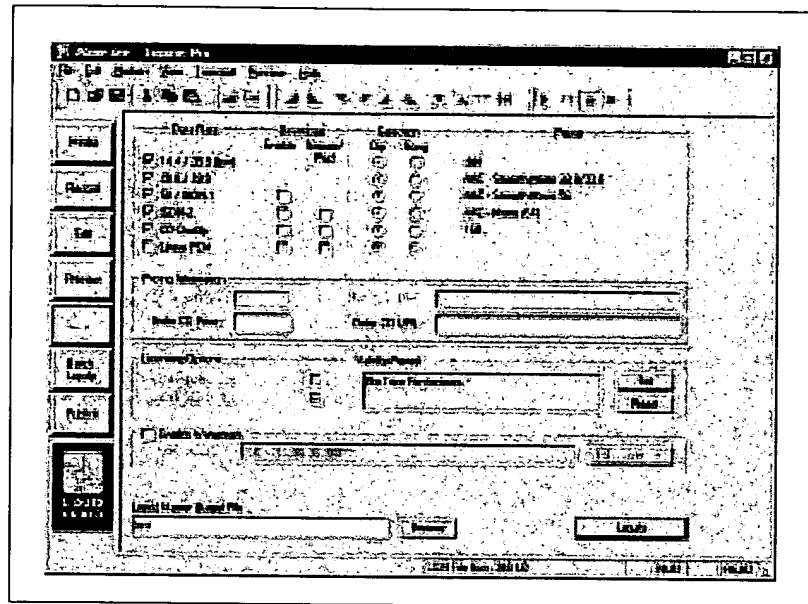
Most artists offer the 30 second clip as a free preview to showcase their music. The compressed audio can only be streamed, it cannot be downloaded or saved to the consumer's hard drive.

This is the simplest option in the Liquifier and allows consumers to play the audio from the Liquid Music Player. Selecting this option lets the consumer play back audio by clicking the Play button in the Liquid Music Player.



*Liquid Music Player—Stream Free Audio Option*

The following illustration shows the options selected in the Liquify pane to enable the free preview.



*Liquify Pane—Stream Free Audio Option*

To enable the free streaming option:

- 1 Open the **Liquify** pane.
- 2 Under **Data Rate**, select the data rates you want.
- 3 Under **Selection**, choose **Clip**.
- 4 Ensure that the **Download** check boxes are not selected.
- 5 If you are done setting options, name the Liquid Master.  
Go to "Naming Liquid Master Files" on page 13-39 for complete information.
- 6 Liquify the audio file.

Go to “Liquifying the Audio File” on page 13-40.	1
.....	2
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Enabling Options to Download Free Audio	4
This section explains how to enable the following options:	5
• Download free audio	6
• Download free audio and export to other standard audio formats	7
• Download free audio and record to CD	8
Refer to “Consumer Options” on page 13-4 for a complete description of these options	9
	10
All Liquifier Pro Download options allow the consumer to stream audio at every data rate included in the file. You can choose several rates for free download. The options available to the consumer are determined by your server administrator.	11
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Download Free Audio	15
Follow this procedure to enable the consumer to download audio for free. The compressed audio can be saved to the consumer’s hard drive, but can only be played back using the Liquid Music Player.	16
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To enable the download free audio option:	19
1 Open the <b>Liquify</b> pane.	20
2 Under <b>Data Rate</b> , select the data rate option you want.	21
3 Under <b>Download</b> , select the <b>Enable</b> check box.	22
4 Under <b>Selection</b> , choose <b>Clip</b> or <b>Song</b> .	23
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5 If you are done setting options, name the Liquid  
Master.  
Go to “Naming Liquid Master Files” on page 13-39 for  
complete information.

6 Liquify the audio file.  
Go to “Liquifying the Audio File” on page 13-40.

### **Download Free Audio and Export to Other Formats**

Use the following procedure to enable the consumer to  
download audio for free and export it to standard  
uncompressed audio file formats, such as WAV or AIFF.  
Exported files are no longer tied to the Liquid Music System.

This option requires the consumer to download and save the  
music using the Liquid Express Player. This application is  
primarily used by users with special post-production needs.

To enable the download free audio and export to other  
formats option:

- 1 Open the **Liquify** pane.
- 2 Under **Data Rate**, select the data rate option you want.  
Note: ISDN-2 or CD-quality is the recommended data  
rates for audio purchased by a consumer.
- 3 Under **Download**, select the **Enable** check box.
- 4 Under **Selection**, choose **Clip** or **Song**.
- 5 Under Licensing Options, select the **Enable Linear  
Export** check box.
- 6 If you are done setting options, name the Liquid  
Master.  
Go to “Naming Liquid Master Files” on page 13-39 for  
complete information.

7	Liquify the audio file.	1
	Go to “Liquifying the Audio File” on page 13-40.	2
	<b>Download Free Audio and Record to CD</b>	3
	Use the procedure in this section to allow the consumer to	4
	download audio for free and burn it to a CD using a CD	5
	recorder. Choosing this option enables the Free Sample	6
	button in the Liquid Music Player.	7
	To enable the download free audio and record to CD option:	8
1	Open the <b>Liquify</b> pane.	9
2	Under <b>Data Rate</b> , select the data rate option you want.	10
	Note: ISDN-2 or CD-quality is the recommended data	11
	rates for audio downloaded by a consumer.	12
3	Under <b>Download</b> , select the <b>Enable</b> check box.	13
4	Under <b>Selection</b> , choose <b>Clip</b> or <b>Song</b> .	14
5	Set a price for downloading the audio.	15
	Go to “Enabling Options to Download Audio” on page	16
	13-27.	17
6	Under Licensing Options, select the <b>Enable CD</b>	18
	<b>Writing</b> check box.	19
7	If you are done setting options, name the Liquid	20
	Master.	21
	Go to “Naming Liquid Master Files” on page 13-39 for	22
	complete information.	23
8	Liquify the audio file.	24
	Go to “Liquifying the Audio File” on page 13-40.	25

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## Enabling Options to Buy Compressed Audio

This section explains how to enable the following options:

- Buy compressed audio
- Buy compressed audio and export to standard audio formats
- Buy compressed audio and record to CD

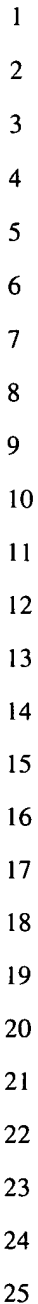
Refer to “Consumer Options” on page 13-4 for a complete description of these options.

All audio that is available for sale must be encrypted. The consumer purchases audio as a Liquid Track through the Liquid Music Player. The Liquid Track is bound to the consumer via the passport that was used to purchase it. The track cannot be played on another Liquid Music Player without the associated passport.

### **Buy Compressed Audio**

Use this procedure to enable the consumer to purchase encrypted audio for downloading over the Internet. The purchased track is encrypted, however it may include a free preview that is not encrypted. The purchased Liquid Track can only be played on a Liquid Music Player that contains the passport used to purchase the track.

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- 6 (Optional) Apply a watermark to the audio.  
Go to “Setting Watermark Options” on page 13-36.
- 7 If you are done setting options, name the Liquid Master.  
Go to “Naming Liquid Master Files” on page 13-39 for complete information.
- 8 Liquify the audio file.  
Go to “Liquifying the Audio File” on page 13-40.

### **Buy Compressed Audio and Export to Other Formats**

Follow this procedure to allow the consumer to purchase a Liquid Track and export the audio to a standard audio file format, such as WAV or AIFF.

This option requires the end user to download and save music using the Liquid Express Player. This application is provided for users with special post-production needs.

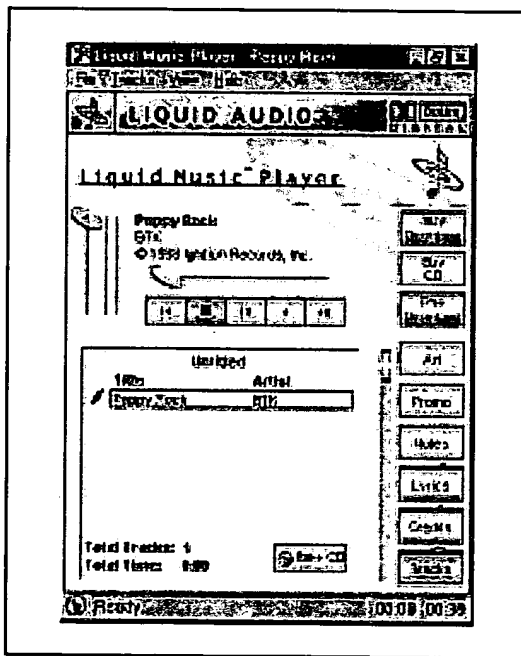
To enable the buy compressed audio and export to other formats option:

- 1 Open the **Liquify** pane.
- 2 Under **Data Rate**, select the data rate option you want.  
Note: CD-quality is the recommended data rate for audio purchased by a consumer.
- 3 Under **Download**, select the **Secure/Paid** check box.
- 4 Under **Selection**, choose **Clip** or **Song**.
- 5 Set a price for downloading the audio.  
Go to “Enabling Options to Download Audio” on page 13-27.

- 6 Under Licensing Options, select the **Enable Linear Export** check box.
- 7 If you are done setting options, name the Liquid Master.  
Go to “Naming Liquid Master Files” on page 13-39 for complete information.
- 8 Liquify the audio file.  
Go to “Liquifying the Audio File” on page 13-40.

### Buy Compressed Audio and Record to CD

Follow this procedure to allow the consumer to purchase a Liquid Track and record the audio to CD. To take advantage of this feature, the consumer will require a CD recorder.



*Liquid Music Player—Enable CD Writing Option*

When you select this option, the Buy Download button is enabled in the Liquid Music Player.

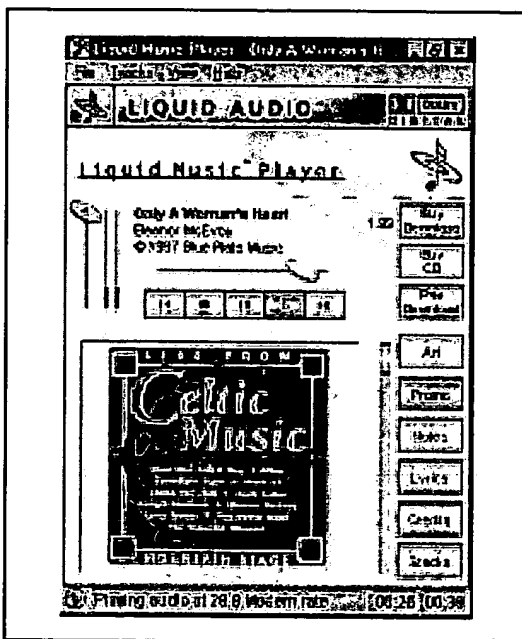
To enable the buy compressed audio and record to CD option:

- 1 Open the **Liquify** pane.
- 2 Under **Data Rate**, select the data rate option you want.  
Ensure that the audio image you select for secure download is compatible with a CD format (44.1kHz sample rate, 16-bit stereo).  
Note: CD-quality is the recommended data rate for audio purchased by a consumer.
- 3 Under **Download**, select the **Secure/Paid** check box.
- 4 Under **Selection**, choose **Clip** or **Song**.
- 5 Set a price for downloading the audio.  
Go to “Enabling Options to Download Audio” on page 13-27.
- 6 Under Licensing Options, select the **Enable CD Writing** check box.
- 7 If you are done setting options, name the Liquid Master.  
Go to “Naming Liquid Master Files” on page 13-39 for complete information.
- 8 Liquify the audio file.  
Go to “Liquifying the Audio File” on page 13-40.

## Enabling Options to Download Audio

If you are providing the consumer with the ability to purchase a Liquid Track, you must supply a price and URL link for the purchase process. The Download Price and Download Purchase URL options provide this facility. Without the appropriate download information, the consumer will not be able to purchase the Liquid Track.

When a Liquid Track is available for purchase, the Buy Download button is enabled in the Liquid Music Player. The download price is displayed next to the button and when the user clicks on the button, the browser is sent to the download URL.



*Liquid Music Player—Buy Download Option*

To enable options to download audio:

- 1 Open the **Liquify** pane.
- 2 Under **Data Rate**, select the **ISDN-2** or **CD-Quality** option.

- 3 Under **Download**, select the **Secure/Paid** option.

The Download Price and Download Purchase URL options are enabled.

- 4 Under **Pricing Information**, do the following:

A) In the **Download Price** field, enter the price for the audio.

B) In the **Download Purchase URL** field, enter the URL where the consumer can download the audio.

Note: The specific format of the price and URL fields is dependent on the server configuration. Please contact your Liquid Music Server administrator for further information.

- 3 If you are done setting options, name the Liquid Master.

Go to "Naming Liquid Master Files" on page 13-39 for complete information.

- 4 Liquify the audio file.

Go to "Liquifying the Audio File" on page 13-40.

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## Enabling Options to Order CDs

The Order CD option allows the Liquid Master file to include a URL link to a web site on which the consumer can purchase a CD. When this option is used, the Liquid Music Player enables the Buy CD button and displays the price of the CD next to the button. If the user clicks on the Buy CD button, the browser is directed to the Order CD URL.



*Liquid Music Player—Order CD Option*

To enable the Order CD option:

- 1 Open the **Liquify** pane.
- 2 Under **Data Rate**, select the data rate option you want.  
Note: CD-quality is the recommended data rate for audio purchased by a consumer.
- 3 Under **Download**, select the **Secure/Paid** check box.
- 4 Under **Selection**, choose **Clip** or **Song**.
- 5 Under **Pricing Information**, do the following:
  - A) In the **Order CD Price** field, enter a price for the CD.
  - B) In the **Order CD URL**, enter the URL where the consumer can purchase the CD.  
Note: The specific format of the price and URL fields is dependent on the server configuration. Please contact your Liquid Music Server administrator for further information.
- 3 If you are done setting options, name the Liquid Master.  
Go to “Naming Liquid Master Files” on page 13-39 for complete information.
- 4 Liquify the audio file.  
Go to “Liquifying the Audio File” on page 13-40.

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Setting Licensing Options	2
Licensing options let you specify whether your music can be exported to other computer platforms or burned to a CD.	3
They only apply to Download/Enabled audio images.	4
This section explains how to select the following options:	5
• Enable Linear Export	6
• Enable CD Writing	7
Refer to “Licensing Options” on page 13-8 for a complete description of these options.	8
Enabling Linear Export	9
To enable linear export:	10
1 Open the <b>Liquify</b> pane.	11
2 Under <b>Data Rate</b> , select the data rate you want.	12
3 Under <b>Download</b> , select the <b>Secure/Paid</b> option.	13
The Licensing Options are enabled.	14
4 Under <b>Licensing Options</b> , select the <b>Enable Linear Export</b> check box.	15
5 Refer to Liquid Audio’s web site at <a href="http://www.liquidaudio.com">www.liquidaudio.com</a> for information about the Liquid Express Player.	16
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## Enabling CD Writing

To enable CD writing:

- 1 Open the **Liquify** pane.
- 2 Under **Data Rate**, select the data rate you want.
- 3 Under **Download**, select the **Secure/Paid** option.  
The Licensing Options are enabled.
- 4 Under **Licensing Options**, select the **Enable CD Writing** check box.
- 5 Refer to Liquid Audio's web site at [www.liquidaudio.com](http://www.liquidaudio.com) for a list of supported CD burners.

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## Setting Validity Period Options

The Validity Period option lets you specify the period of time in which consumers can play back audio that is offered for free preview over the Internet. This option is applied to songs, rather than clips.

This section explains how to set the following options:

- Relative Validity
- Absolute Validity

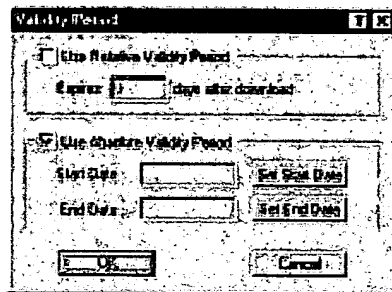
Refer to "Validity Period Options" on page 13-10 for a complete description of these options

## Setting a Relative Validity Period

To set a relative validity period:

- 1 Open the **Liquify** pane.
- 2 Under **Validity Period**, click **Set**.

The Validity Period window opens.



- 3 Select the **Use Relative Validity Period** check box.
- 4 In the **Expires** field, type the number of days in which the audio will expire after the consumer downloads a Liquid Track.

Note: The maximum number of days for relative validity is 999.

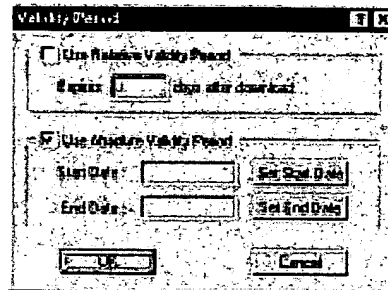
- 5 Click **OK**.

The Validity Period window closes.

## Setting an Absolute Validity Period

To set an absolute validity period:

- 1 Open the **Liquify** pane.
  - 2 Under **Validity Period**, click **Set**.
- The Validity Period window opens.



- 3 Select the **Use Absolute Validity Period** check box.
- 4 Do the following:
  - To set the start date, go to step 5.

If you don't select a start date, the Liquid Track is valid immediately.
  - To set the end date, go to step 6.

If you don't select an end date, the Liquid Track is valid indefinitely.
- 5 To set the start date, do the following:
  - A) Click **Set Start Date**.

The Calendar window opens.



- B) Click < or > to go to the previous or next month, respectively.
- C) Click << or >> to go to the previous or next year, respectively.
- D) Click the date you want.
- E) Click **Set Start Date**.

The Calendar window closes.

6 To set the end date, do the following:

- A) Click **Set End Date**.

The Calendar window opens.

- B) Click < or > to go to the previous or next month, respectively.
- C) Click << or >> to go to the previous or next year, respectively.
- D) Click the date you want.
- E) Click **Set End Date**.

6 The Calendar window closes.

7 Click **OK**.

The Validity Period window closes. The options you selected appear in the Validity Period group box.

## Resetting the Validity Period

If you change your mind about the options selected for the validity period, you can easily clear them.

To reset the validity period:

- On the **Liquifier** pane, click Reset.

## Setting Watermark Options

Watermarking fingerprints an audio image by embedding an inaudible data stream in the image. It provides a means to identify and track audio that has been illegally sold and distributed.

This section explains how to apply the following watermark options:

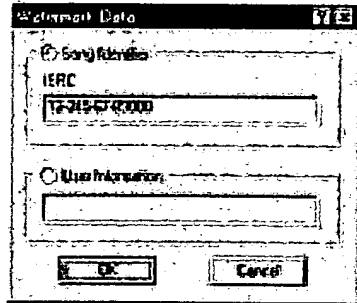
- Song Identifier
- User Information

Refer to “Watermark Options” on page 13-12 for a complete description of these options.

To apply a watermark to audio:

- 1 Open the **Liquify** pane.
- 2 Select the **Enable Watermark** option.
- 3 Click **Edit Watermark**.

The Watermark Data window opens.



4 Do one of the following:

- To use the Song Identifier, click the **Song Identifier** option. This is the default setting.
- To use a personal identifier, click the **User Information** option. Type in a personal identifier of up to 18 characters in length.

5 Click **OK**.

The Watermark Data window closes and the identifier appears in the Watermark Data field.

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## Saving Encoding Settings

If you plan to use the encoding settings you selected in the Liquify pane for other audio images, you need to save them.

All Liquify pane settings are stored in an LAW file. You should use LAW files when configuring encoding options so your selections are saved.

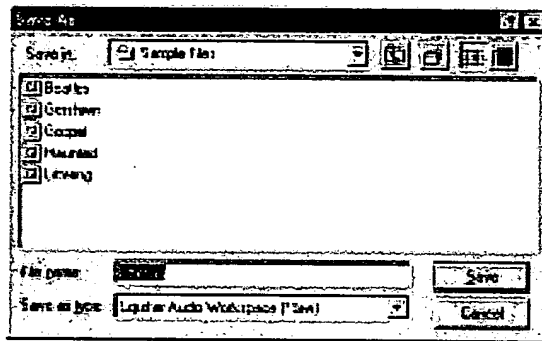
Saving the encoding settings to a Liquifier Audio Workspace file lets you use them again with other audio images without the need to enter the information again.

**IMPORTANT:** Saving the encoding selections is a requirement for using the batch liquify function. You must save the settings you selected in the Liquify pane before you can encode multiple files in the Batch Liquify pane.

To save your encoding settings:

- 1 Open the **Liquify** pane.
- 2 On **File**, click **Save As**.

The Save As window opens.



- 3 In the **Save As Type** list, select **Liquifier Audio Workspace (\*.law)**.
- 4 In the **File Name** box, type a name for the file.
- 5 Click the **Save** button.

The Save As window closes and the workspace is saved to the name you selected. The name appears in the title bar of the Liquify Pro window.

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## Naming Liquid Master Files

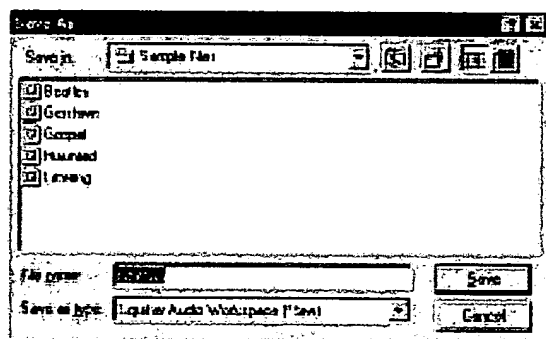
Before you liquify the source audio file, you must provide a name and location in which to save it on your computer. After you encode and compress the audio file, it is saved to the pathname you specified as a Liquid Master (.lqm) file.

By default, the name and location of the file loaded in the Edit pane appears in the Liquid Master Output File field. You can retain this name and location, or choose a different pathname.

To name the Liquid Master file:

- 1 Open the **Liquify** pane.
- 2 Do one of the following:
  - In the **Liquid Master Output File** field, type the complete pathname.
  - Under **Liquid Master Output File**, click **Browse**.

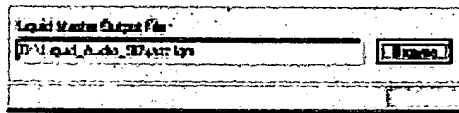
The Save As window opens.





- 3 In the **Save As Type** list, select **Liquid Master (.lqm)**.
- 4 In the **File Name** box, type a name for the file.
- 5 Click the **Save** button.

The Save As window closes and the pathname appears in the Liquid Master Output File field.



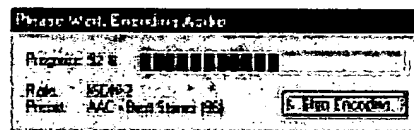
## Liquifying the Audio File

Liquifying audio is the process of compressing and encoding the source audio file using the data rates and other options selected in the Liquify pane. The result of the liquify process is a Liquid Master file (.lqm). The Liquid Master file is the source of your song and clip images offered for preview, download, and purchase over the Internet.

To liquify the audio file:

- On the **Liquify** pane, click **Liquify**.

A progress window appears.



After a few moments, depending on the options selected in the Liquify pane, the Liquid Master is saved to the pathname you selected. When the encoding process is complete, the progress window closes.

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## Closing the Liquify Pane

To close the Liquify pane:

- On the **Liquifier Pro taskbar**, click a workspace pane button.

The Liquify pane closes and the workspace pane you selected opens on your desktop.

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# *Liquifying Multiple Files*

CHAPTER  
**14**

This chapter explains how to use the Batch Liquify pane to liquify a large number of audio images for final distribution in the Liquid Master file format.

The Batch Liquify pane provides a substantial productivity enhancement over the Liquify pane by letting you extract, compress, and encode multiple audio images at once, rather than work with individual audio images during a session.

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## **Before You Begin**

Before using the Batch Liquify pane, you must complete the following tasks for each audio image you want to liquify:

- Choose the text and graphics options you want to include with the final file
- Select the data rates at which the consumer can access audio over the Internet
- Select options that enable consumers to stream, download, or purchase audio

In addition, you can choose to apply the following attributes to an audio image:

- Set price information for buying audio.
- Select licensing options for exporting or burning audio to CD.
- Apply watermarks to track unauthorized sale or distribution of audio.

Text- and graphics-based options are set in the Media pane. Go to *Chapter 5, "Creating Media Files with Text and Graphics."* Encoding options are set in the Liquify pane. Go to *Chapter 13, "Liquifying Individual Files,"* for complete information on preparing individual audio images for encoding.

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## A Tour of the Batch Liquify Pane

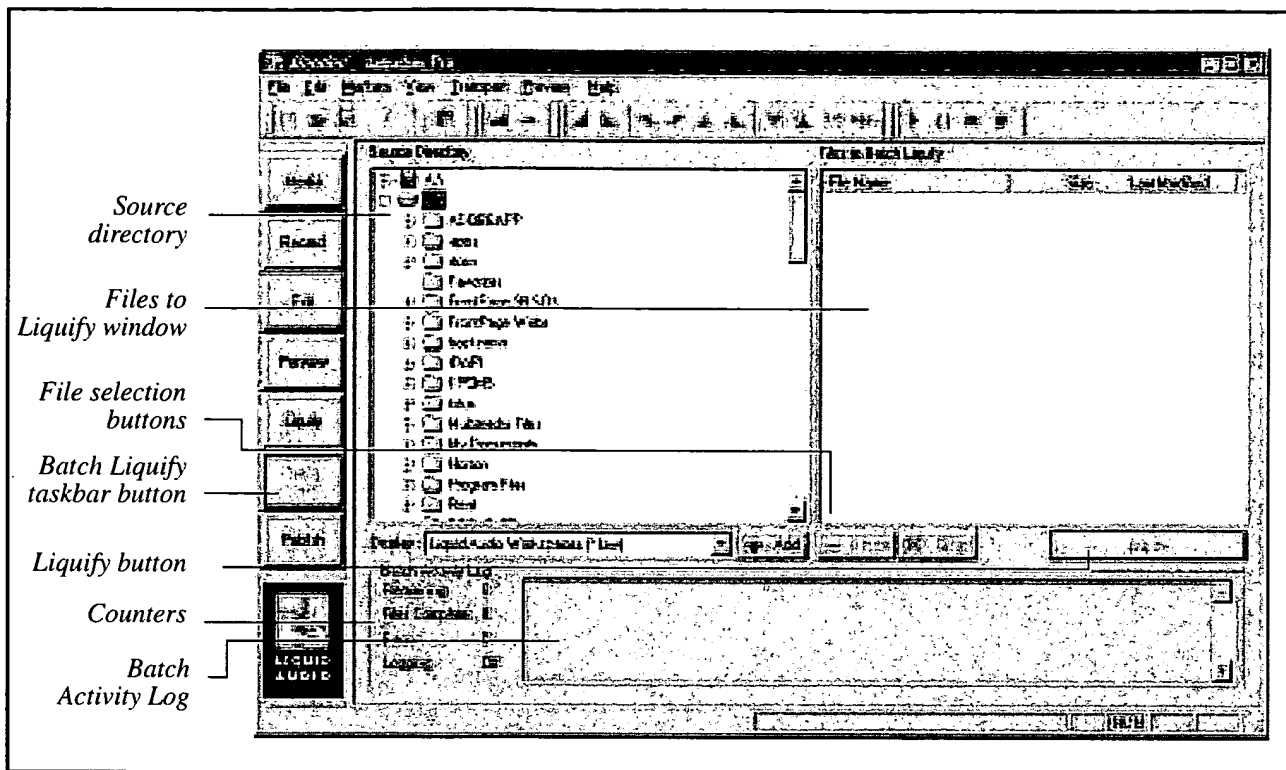
The Batch Liquify pane is used to extract and liquify multiple audio images during a single session.

### Batch Liquify Pane—Functions

The Batch Liquify pane provides the following functions:

- Extract multiple source files to liquify.
- Compress and encode multiple files at once.
- Choose the destination directory for the liquified files.
- View messages about the batch process in an activity log window.
- Monitor each file as it is liquified in a progress bar.
- View a list of errors that occurred during the liquify process in a text log file.

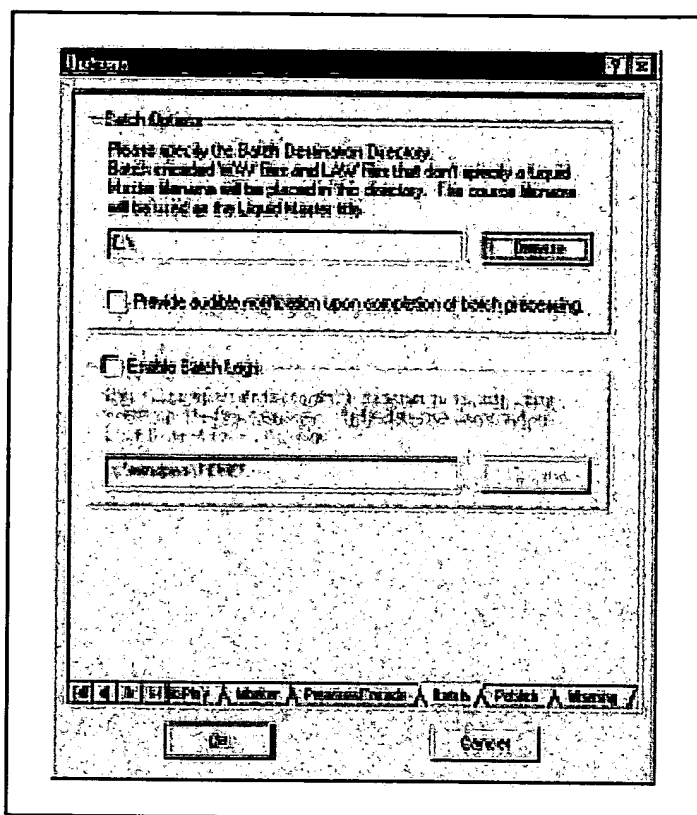
<b>Batch Liquify Pane—Components</b>	1
The Batch Liquify pane supplies the following components:	2
• <b>Batch Liquify taskbar button</b> —Opens the Batch Liquify pane in Liquifier Pro.	3
	4
• <b>Source Directory</b> —Shows the directories on your PC from which you can select source files.	5
	6
• <b>Files to Batch Liquify window</b> —Shows the files you selected to liquify.	7
	8
• <b>Display</b> —Displays files of the selected type in the Source Directory window.	9
	10
• <b>Add button</b> —Adds files from the Source Directory to the Files to Batch Liquify window.	11
	12
• <b>Delete button</b> —Moves files selected from the Files to Batch Liquify window to the Source Directory.	13
	14
• <b>Clear button</b> —Moves all files from the Files to Batch Liquify window to the Source Directory.	15
	16
• <b>Liquify button</b> —Compresses, encodes, and saves the source audio as a Liquid Master file.	17
	18
• <b>Batch Activity Log</b> —Posts messages about the liquify process.	19
	20
• <b>Counter</b> —Displays the progress of each audio image as it is liquified. The three counters are:	21
• <b>Remaining</b> —Shows the number of files left to be encoded.	22
• <b>Complete</b> —Shows the number of files that have been encoded.	23
• <b>Errors</b> —Shows the number of errors that occurred during the encoding process.	24
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### Batch Liquify Pane—Components

## Batch Liquify Pane—User Options

Liquifier Pro provides a number of user options you can set to facilitate your work process. These options, which are set on the Publish tab of the Options window, are described in *Chapter 16, Customizing Liquifier Pro*.



Options Window—Batch Tab

This chapter explains how to set all user options available in the Batch tab. Refer to Table 14–1 for a list of options that apply to this pane.



**Table 14–1: Batch Liquify Pane—User Options**

To:	Go to:
Select the destination directory for the encoded WAV files and Liquid Masters.	“Choosing the Destination Directory” on page 13-9 or “Customizing Batch Liquify Options” on page 16-30
Enabling the creation of batch log files to record all status messages about the operation	“Enabling Batch Logs” on page 13-13 or “Customizing Batch Liquify Options” on page 16-30

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## Opening the Batch Liquify Pane

To open the Batch Liquify pane:

- 1 Start **Liquifier Pro**.
- 2 Do one of the following:
  - On the **View** menu, click **Batch Liquify** pane.
  - On the **Liquifier Pro** taskbar, click **Batch Liquify**.

The Batch Liquify pane opens on your desktop.

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## Selecting the Source Audio Files

This section explains how to select the source files you want to extract from a directory on your computer and liquify in the Batch Liquify pane. You can select two types of files: Liquifier Audio Workspace files or WAV files. You can select individual files to liquify, or you can select a folder that contains the source files.

### Liquifier Audio Workspace Files

When you select LAW files to encode, Liquifer Pro uses the data rates, download options, licensing options, and other settings you selected in the Liquify pane and saved to the workspace file.

The resultant Liquid Master file is stored in the LAW file and retains the LAW file name. If the LAW file does not contain an LQM file name, the encoded Liquid Master file is placed in the destination directory. It inherits the LAW file name, but uses an .lqm file extension.

### WAV Files

When you select WAV files to encode, Liquifer Pro uses the options you selected in the current Liquify pane and the Media pane when the encoding process starts.

Therefore, WAV files are liquified using the data rates, download options, licensing options, and media options set in the Liquify pane and Media pane, respectively, during the current session.

If WAV files are interspersed between LAW files, the original Liquify and Media pane settings are restored prior to encoding.

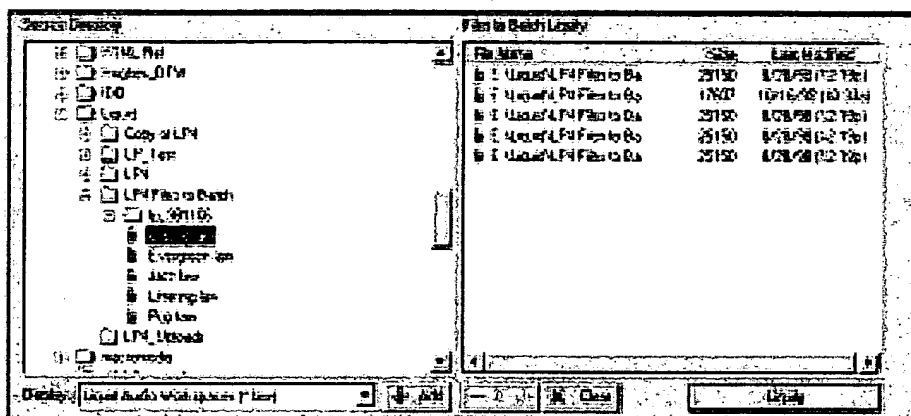
To select the source audio files:

- 1 Open the **Batch Liquify** pane.
- 2 In the **Display** list, do one of the following:
  - Select **Liquifier Audio Workspace (.law)** to view a list of Liquifier Audio Workspace files.
  - Select **Wave Files (.wav)** to view a list of Wave-format files.

The Display list lets you choose the file type you want to batch liquify. The selected file type is used to generate the display in the Source Directory window. Files that are added to the Batch Files to Liquify window depend on the file type you select. For example, if you choose LAW files, only Liquifier Audio Workspace files are added to the window even if other file types are present in the folder.

- 3 In the **Source Directory** list click the drive, folder, or Internet location that contains the files you want to liquify.
- 4 In the folder list, double-click folders until you open the folder that contains the files you want.
- 5 Under the **Source Directory** list, select the file or folder you want.
- 6 Do one of the following:
  - Double-click the file or folder.
  - Click **ADD**.

The files are added to the Files to Batch Liquify window.



6 (Optional) To remove files from the Batch Files to  
Liquify window, do one of the following:

- A) To remove a file or folder, select the file or folder  
and click **Delete**.
- B) To remove all files, click **Clear**.

## Choosing the Destination Directory

Use the following procedure to select the destination  
directory for the encoded WAV files. The destination  
directory is a location on your hard drive where Liquifier Pro  
saves the final audio images.

Choosing the destination directory before you start the batch  
liquify process saves you time. If you do not set this option,  
you are prompted to save each file before you batch liquify it.

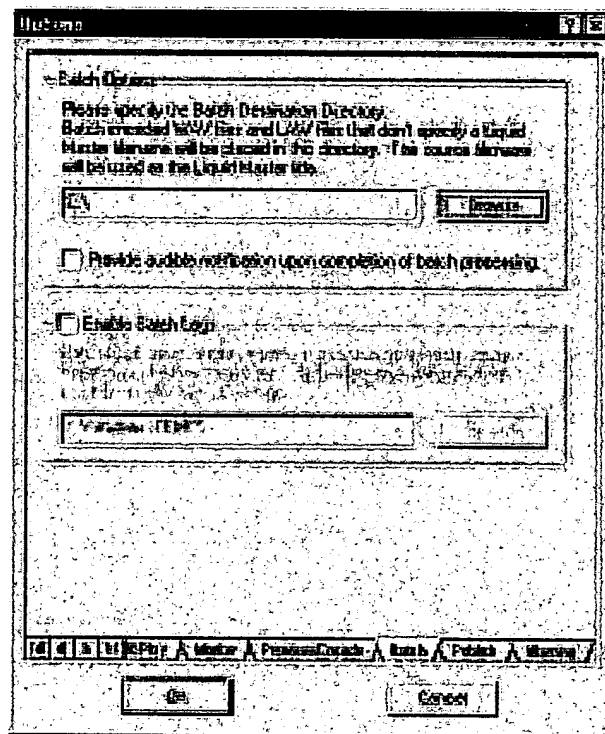
The WAV files are stored in the destination directory, along  
with the Liquid Master files. Liquid Master files retain the  
same name as the source WAV files, but have an .lqm file  
extension.

If you are liquifying a large number of file, ensure that you have adequate free space on your hard drive to accommodate the final Liquid Masters.

To choose the destination directory:

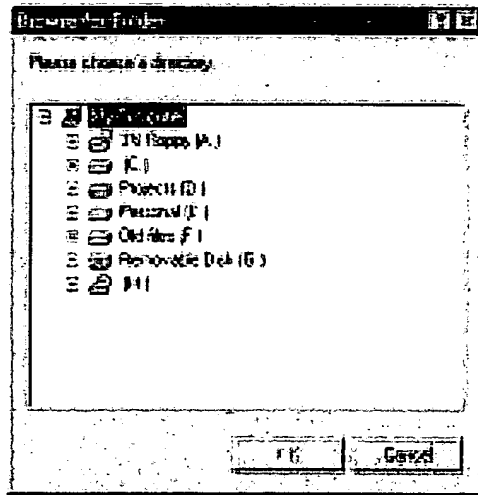
- 1 Open the **Batch Liquify** pane.
- 2 On the **View** menu, click the **Batch Liquify**.

The Batch Liquify Options page opens.



- 3 Under **Batch Options**, do one or more of the following:
  - A) To specify the destination directory for batch WAV files, click **Browse**.

The Browse for Folder window opens.



B) Select the drive, directory, or folder in which you want to save the batch WAV files.

C) Click **OK**.

The Browse for Folder window closes.

4 To enable an audible sound when the batch operation is done, select the **Provide audible notification upon completion of batch processing** check box.

5 Click **OK**.

The Browse for Folder window closes.

6 To enable the new options, click **OK** on the **Options** window.

The Options window closes and the options are ready to use.

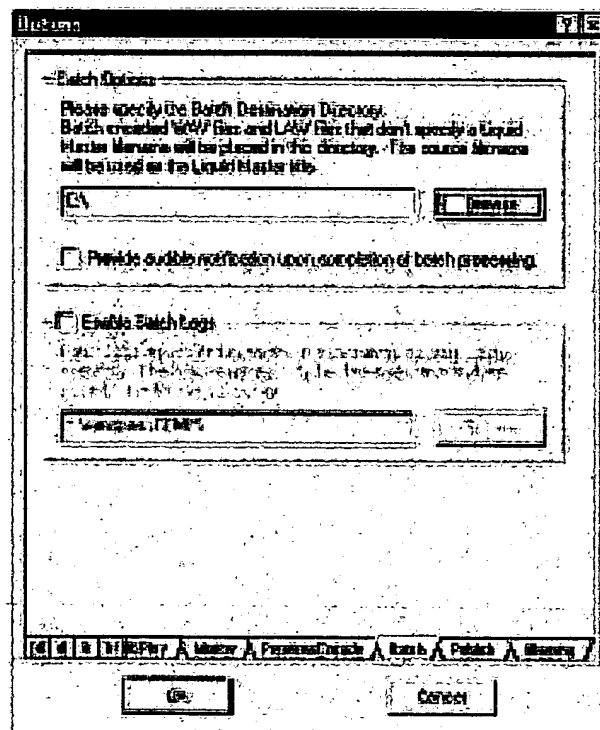
## Enabling Batch Logs

If you want a record of all processes that occur as you batch liquify files, you can enable the Batch Log option. Log names are generated using the date and time at which the batch encoding process starts. For example, LP\_1998-10-04\_5-45-22.log. A log file contains everything listed in the Status window of the Batch Liquify pane, but does not have a 64K restriction on length.

To enable batch logs:

- 1 Open the **Batch Liquify** pane.
- 2 On the **View** menu, click the **Batch Liquify**.

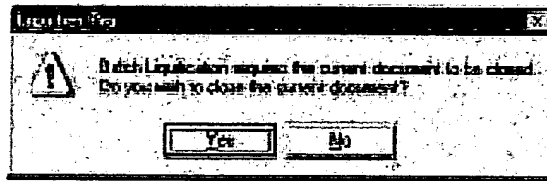
The Batch Liquify Options page opens.



3	Under <b>Enable Batch Logs</b> , do the following:	1
A)	To create batch logs every time you start the batch liquify process, select the <b>Enable Batch Logs</b> check box.	2
B)	To specify a directory for the batch logs that is different from the default directory (c:\windows\temp), click <b>Browse</b> .	3
	The Browse for Folder window opens.	4
C)	Select the drive, directory, or folder in which you want to save the batch log files.	5
D)	Click <b>OK</b> .	6
	The Browse for Folder window closes.	7
5	To enable the new options, click <b>OK</b> on the <b>Options</b> window.	8
	The Options window closes and the options are ready to use.	9
	.....	10
	<b>Liquifying Multiple Audio Files</b>	11
	To liquify multiple audio files:	12
1	Open the <b>Batch Liquify</b> pane.	13
2	Ensure that the files you want to liquify appear in the <b>Files to Batch Liquify</b> window.	14
3	Click <b>Liquify</b> .	15
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1 A confirmation window appears.

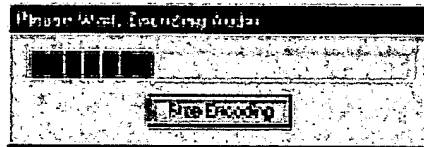


5

6 4 Click Yes.

7 The Batch Liquify pane closes and the batch processing starts.

8 As Liquifier Pro processes a file, a progress window appears.



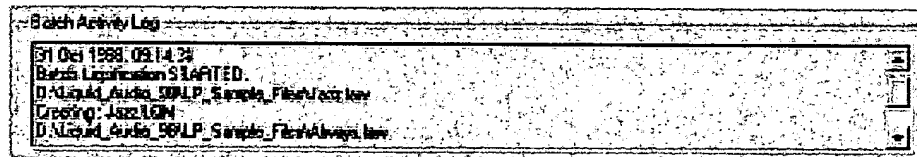
12

13 A description of the current activity appears in the

14 Batch Activity Log window. When the process starts,

15 the message, "Batch Liquification: STARTED"

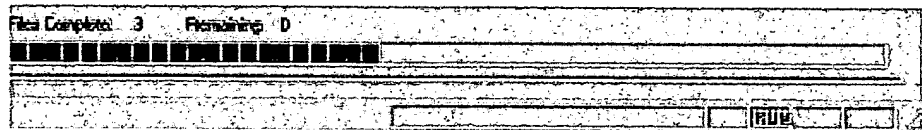
16 appears.



19

20 A progress bar at the bottom of the Batch Liquify pane

21 monitors the progress of each file as it is liquified.

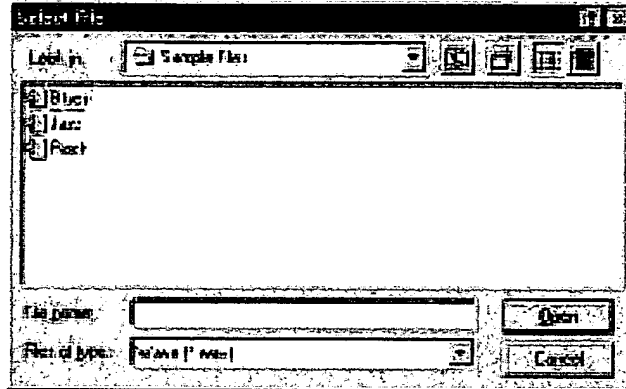




To recover WAV file associations:

- 1 In the **Recover WAV File Association** window, click the browse button (...).

The Select File window opens.



- 2 In the **Files of Type** list, select **WAVE (.wav)**.
- 3 In the **Look In** box, click the drive, folder, or Internet location that contains the file.
- 4 In the folder list, double-click folders until you open the folder that contains the file you want.
- 5 Double-click the file you want to associate with the WAV file.
- 6 Click **Open**.

The file is associate with the WAV file and the Select File window closes. The pathname appears in the Recover WAV File Association window.

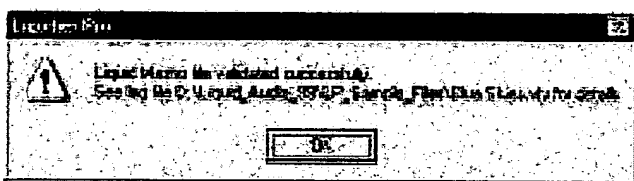
- 7 Click **OK**.

The Recover WAV File Association window closes.

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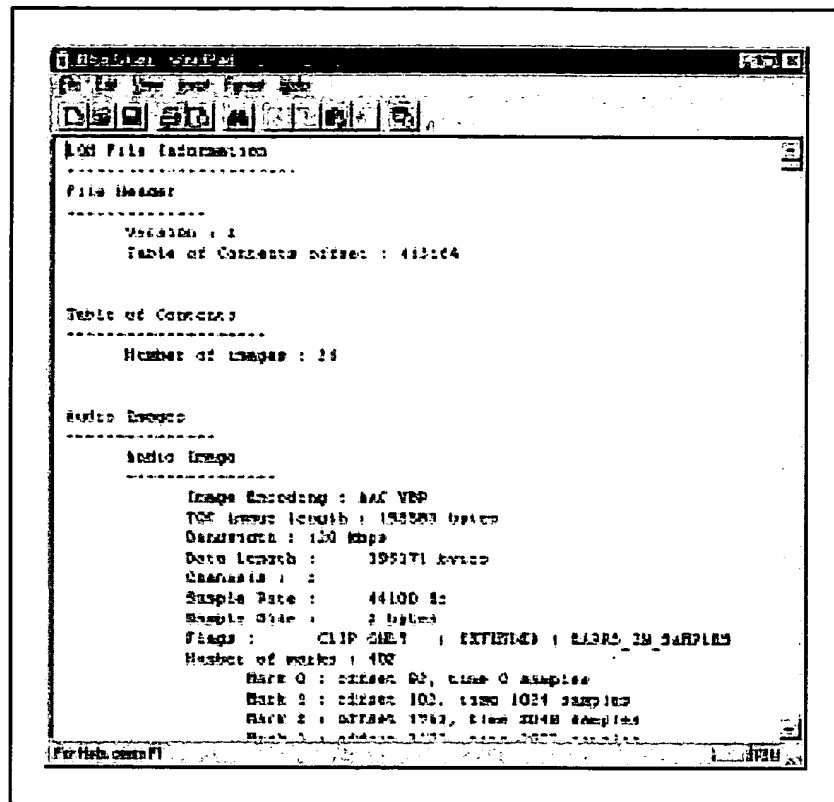
## Viewing Error Logs

If an error occurred during the batch liquify process, an error message displays in the Batch Liquify pane. The message, similar to the illustration shown below, provides a pathname so you locate the log.



The LQM File Information Log displays information about errors that occurred during the liquify process. The log file is automatically saved in the same directory as the validated file.

The log file appears in the directory with the same name as the validated file, but with a .vfy file extension. It is a text file that can be opened and reviewed using any text editor available on your computer.



*Batch Liquify Pane—LQM File Information Log*

To view the error log:

- 1 Start **WordPad**, or some other text editor for viewing short documents.
- 2 From the **File** menu, click **Open**.  
The Open window appears.
- 3 In the **Files of Type** list, type the name of the log file.  
Note: The log file has a .vfy file extension.
- 4 In the **Look In** box, click the drive, folder, or Internet location that contains the file.

- 5 In the folder list, double-click folders until you open the folder that contains the log file you want.
- 6 Double-click the log file.  
The log file opens.
- 7 Review the information in the file.
- 8 When you are done viewing the file, click **Exit** in the **File** menu.

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## Closing the Batch Liquify Pane

To close the Batch Liquify pane:

- On the **Liquifier Pro** taskbar, click a workspace pane button.

The Batch Liquify pane closes and the workspace pane you selected opens on your desktop.

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# *Publishing Liquid Masters*

This chapter explains how to use the Publish pane to upload Liquid Master files to your account on a Liquid Music Server. Publishing LQM files to a remote server is the final step in preparing CD-quality music for secure, electronic distribution over the Internet.

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## A Tour of the Publish Pane

The Publish pane is used to upload encoded audio images to a music server.

### **Publish Pane—Functions**

The Publish pane lets you perform the following functions:

- Log in to your Liquid Music Server account.
- Drag-and-drop encoded files to the server to publish them.
- Automatically encrypt the LQM files for secure download on commerce-enabled servers.
- Automatically export more than sixty fields of descriptive text, lyrics, and artwork for display in the Liquid Music Player.
- Publish multiple LQM files to a music server using the batch productivity enhancement.
- Remotely manage Liquid Masters by renaming, replacing, or deleting files previously published to a music server.
- View the contents of an LQM file without opening it for editing.



- Validate LQM files before uploading them to the Liquid Music Server.

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## Publish Pane—Components

The Publish pane provides the following components:

- **Publish taskbar button**—Opens the Publish pane.
- **Server Connection**—Connects to the remote server and provides user access controls.
- **Log In/Log Out button**—Logs into the remote server using valid account information. Toggles to Log Out following successful connection to the server.
- **Local System**—Shows the directories on your local computer.
- **Remote Server**—Shows the directories on your account when connected to the remote server.
- **Publish/Abort button**—Uploads selected files to a target file or directory on the remote server. Toggles to Abort after the uploading process has started to stop the file transfer, if necessary.
- **Free Space on Server**—Displays the available space (in megabytes) on your account when connected to the remote server.
- **URL**—Shows the Internet address consumers will use to stream and download the published Liquid Masters.



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## Publish Pane—Menu Commands

Liquifier Pro provides several commands that let you manage folders and files in your account on the Liquid Music Server. These commands are provided in the Remote Server context menu in the Publish pane. The context menu is only available when you are connected to a Liquid Music Server.

### Folder Commands

- **Rename File**—Renames the selected Liquid Master.
- **Create Folder**—Creates a new folder on the remote server.
- **Delete**—Deletes the selected folder from the remote server. A folder can only be deleted when it is empty. If the folder is not empty, an error message displays and the folder is not deleted.

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## Publish Pane—Requirements

Before you can publish music to a Liquid Music Server, you'll need access to one or more Liquid Master files encoded using the tools in the Liquify pane. If you have not liquified any audio images, go *Chapter 13, Liquifying Individual Files* *Liquifying Individual Files* for complete information.

## Requirements to Publish

To publish Liquid Masters to a remote server, you must meet a number of minimum requirements.

- The LQM file must contain an audio image.
- The LQM file must contain song title, album title, and copyright information.

If you have not included media and text-based information with the file, go to “Required Tab” on page 5-30 in *Chapter 5, Creating Media Files with Text and Graphics* for complete information.

## Requirements to Purchase

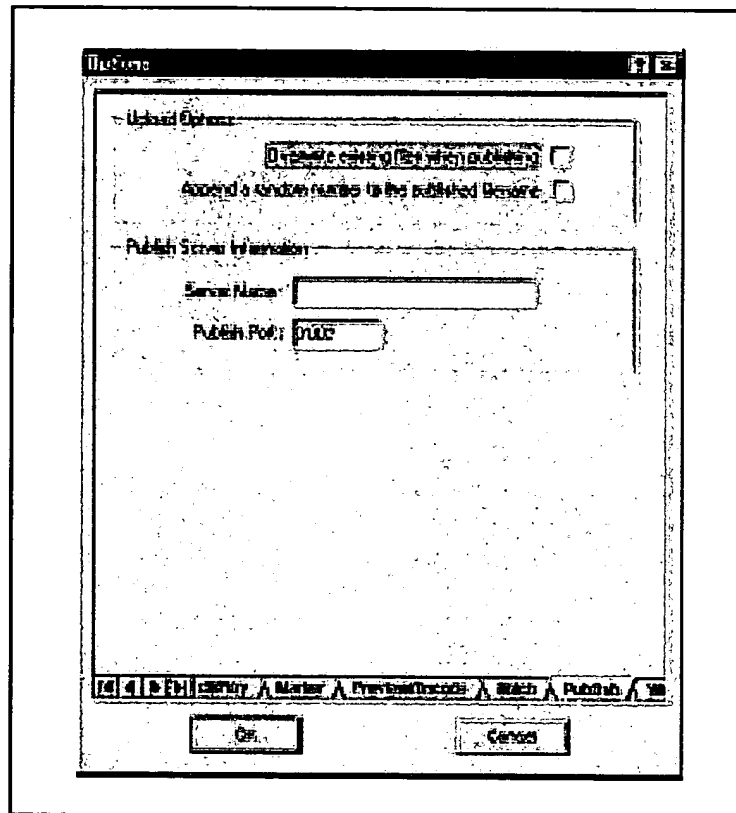
To publish Liquid Masters to a remote server for purchase, you must meet the following additional requirements:

- The LQM file must contain an encrypted audio image.
- The LQM file must contain all required media fields.
- The remote server is commerce-enabled, as indicated by the dollar sign character (\$) in the Remote Server window.
- The “for sale” quota for the account has not been exceeded.

If any of these requirements are not met, errors will occur during the file transfer process and the LQM file will not be uploaded to the remote server.

## Publish Pane—User Options

Liquifier Pro provides a number of user options you can set to facilitate your work process. These options, which are set on the Publish tab of the Options window, are described in *Chapter 16, Customizing Liquifier Pro*.



*Options Window—Publish Tab*

This chapter explains how to set options to access the remote server. Refer to Table 15-1 for a list of all options that apply to the Publish pane.

**Table 15–1: Publish Pane—User Options**

To:	Go to:
Automatically overwrite an existing Liquid Master file (.lqm) when uploading a file of the same name to the publish server	“Customizing Publish Options” on page 16-34
Add a random number to the end of your file name	“Customizing Publish Options” on page 16-34
Automatically enter the name of your server in the Server Name text field.	“Customizing Publish Options” on page 16-34
Automatically enter the port number in the Publish Port text field. (Typically, the port number is 7002).	“Customizing Publish Options” on page 16-34

## Opening the Publish Pane

To open the Publish pane:

- 1 Start **Liquifier Pro**.
- 2 Do one of the following:
  - On the **View** menu, click **Publish pane**.
  - On the **Liquifier Pro** taskbar, click **Publish**.

The Publish pane opens on your desktop.

.....

## Setting Up Publish Server Information

Before logging in to a remote server, you'll need to set up the following information in the Publish pane:

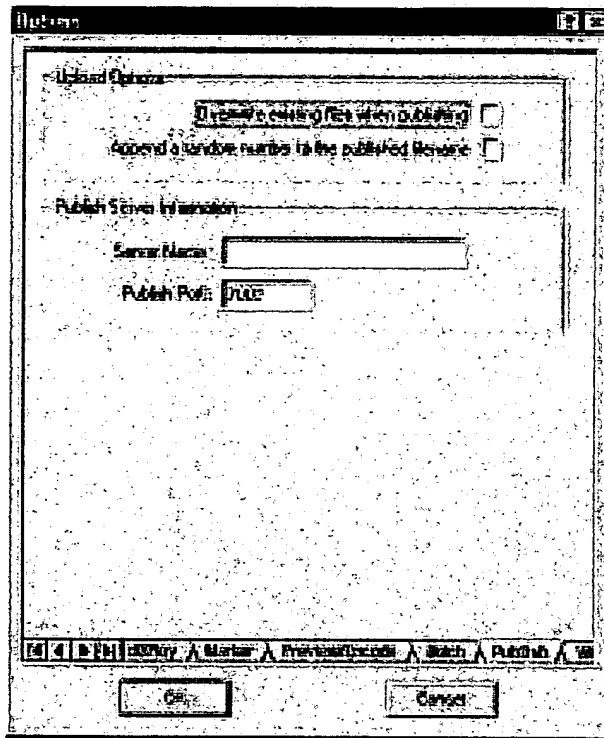
- **Remote server**—The name of the remote server to which you will be connecting. You can use either the domain name or the IP address.
- **Port number**—The port number to access the remote server. Typically, this number is 7002.

If you do not have this information, contact the system administrator for your Liquid Music Server account.

To set up publish server information:

- 1 Open the **Publish** pane.
- 2 From the **View** menu, select **Options**.

The Publish pane tab opens in the Options window.



3 Under **Publish Server Information**, do the following:

A) In the **Server Name** text field, type the name of your server.

You can enter the DNS (domain name server) entry address or the IP address.

B) In the **Publish Port** text field, type the port number. (Typically, the port number is 7002).

Note: If you do not know the server name or port, contact your music server provider for assistance.

3 To enable the new options, click **OK**.

The Options window closes and the options are ready to use.



.....

## Logging in to the Remote Server

Before logging in to a remote server, you'll need to provide the following information in the Publish pane:

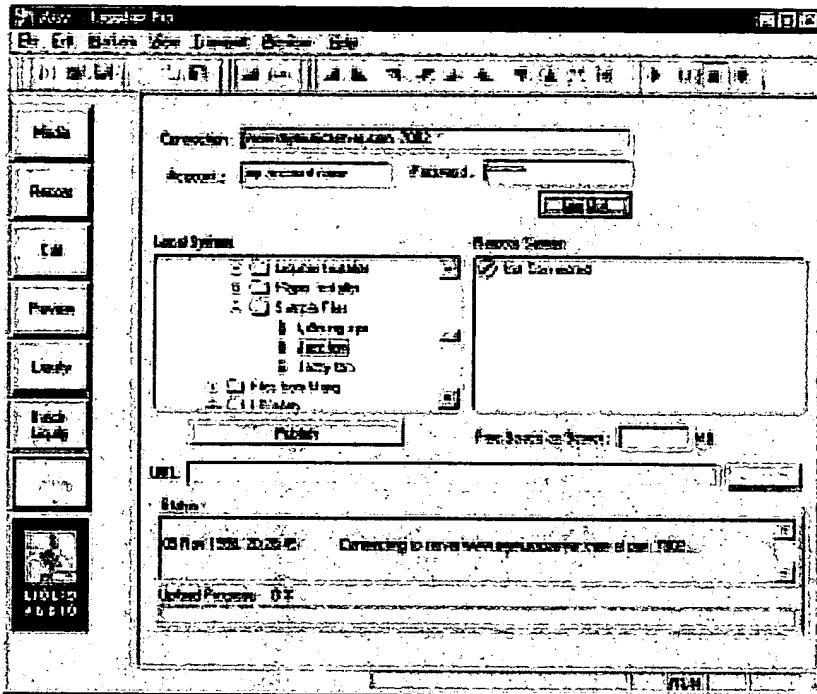
- **Account**—The name of your account on the remote server.
- **Password**—Your user password.

If you do not have this information, contact the system administrator for your Liquid Music Server account.

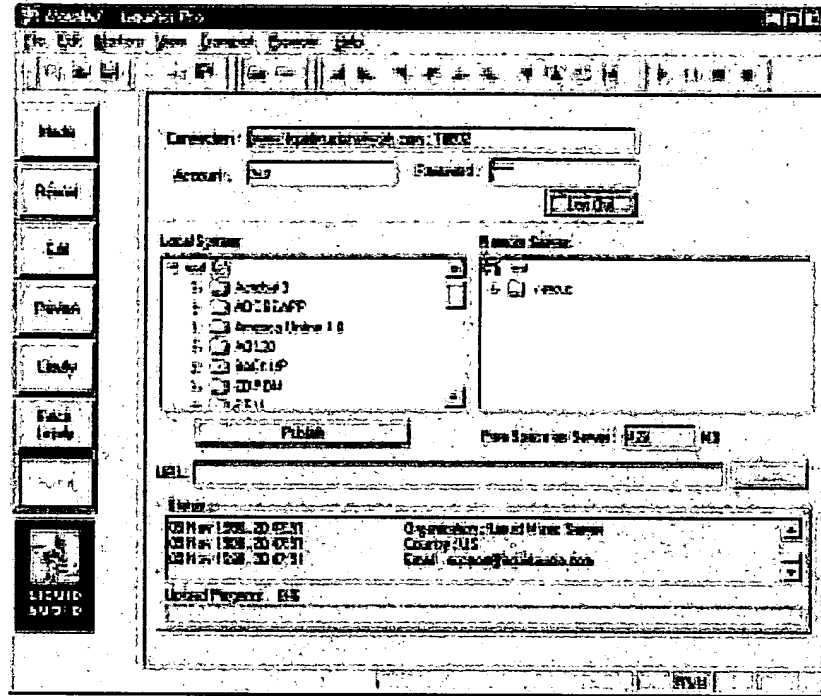
To log in to the remote server:

- 1 Open the **Publish** pane.
- 2 In the **Account** field, type your login account name
- 3 In the **Password** field, type your login password.
- 4 Click **Log In**.

The login process is initiated.



When you have successfully connected to the server, the Remote Server window is enabled. If a connection is made to a commerce-enabled server, then the server is validated and specific certificate information displays in the status window. A dollar sign character (\$) indicates that the server is commerce-enabled.



Once you are successfully connected to the server the Log In button changes to Log Out. The server, port name, and account name are persistent across sessions.

## Choosing the Destination Directory

Liquifier Pro transfers files from your local system to the remote server based on the target you select in the Remote Server window. The target can be a file, a folder, or the root directory on your user account.

When you choose one or more Liquid Masters for upload to a remote server, Liquifier Pro transfers the files as follows:

- If you select a file in the Remote Server window as the target, the Liquid Master is published to the parent directory.
- If you select a directory in the Remote Server window as the target, the Liquid Master is published to that directory.
- If you do not select a target in the Remote Server window, the Liquid Master is published to the root directory.

Before publishing LQM files to a remote server, determine the destination directory to which you want to upload files on your account.

.....

## Publishing Liquid Masters

Three options are available for publishing Liquid Masters to a remote server:

- Publish a single Liquid Master file
- Publish multiple Liquid Master files contained in a single folder.
- Publish multiple Liquid Master files contained in nested folders.

If you have only one LQM file to publish, or have made edits to an existing file and want to upload it to the music server, follow the procedure for publishing a single LQM file.

If you have multiple LQM files to upload, you'll want to use the batch publishing function. This feature allows you to publish all files located in a single folder or in nested folders with a single action. It can enhance your work productivity by expediting the file transfer and upload process.

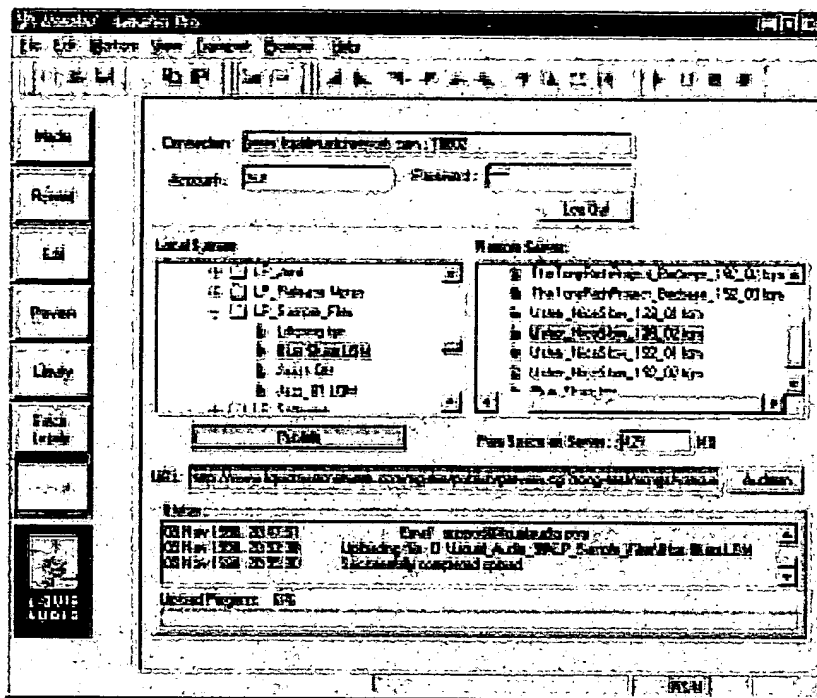
## **Publishing a Liquid Master**

To publish a Liquid Master:

- 1 Open the **Publish** pane.
- 2 Connect to the remote server.  
Go to "Logging in to the Remote Server" on page 15-10 for complete information.
- 3 Under **Local System**, do the following:
  - A Click the drive and directory that contains the Liquid Master file (.lqm) you want to publish.
  - B In the folder list, double-click folders until you open the folder that contains the file you want.
- 4 Do one of the following:
  - To transfer LQM files using the drag-and-drop method, go to step 5.
  - To transfer LQM files using the manual method, go to step 6.

5	To transfer LQM files using the drag-and-drop method, do the following:	1
		2
A	In the <b>Local Server</b> window, select the source file you want to publish.	3
B	Press and hold down the left mouse button.	4
C	Drag the file to the <b>Remote Server</b> window.	5
	The cursor changes to an arrow with a + character.	6
D	Move the file over the target location.	7
	The target is highlighted.	8
E	In the <b>Remote Server</b> window, drop the file on the target location by releasing the left mouse button.	9
		10
		11
	The upload process is initiated.	12
6	To transfer LQM files using the manual method, do the following:	13
		14
A	In the <b>Local Server</b> window, select the source file you want to publish.	15
	The file is highlighted.	16
B	In the <b>Remote Server</b> window, select the target location for the file.	17
		18
	The target is highlighted.	19
C	Click <b>Publish</b> .	20
	The upload process is initiated. Information about the file transfer displays in the Status window and Upload Progress bar at the bottom of the Publish pane. After the file transfer starts, the Publish button changes to Abort, enabling you to stop the process, if necessary.	21
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Note: Occasionally, the new folders and published files on the remote server will contain slightly modified names. The publish mechanism replaces all non-alphanumeric characters in the names with an underscore (\_). This prevents the generation of invalid URLs for the published files.



## Publishing Liquid Masters in a Folder

Use the following procedure to publish LQM files contained in a source directory on the Local System to the Remote Server window. This action creates a folder using the same name as the source folder and transfers all LQM files in the folder to the remote server. This procedure does not publish subdirectories contained in the source folder.

To publish Liquid Masters in a folder:

- 1 Open the **Publish** pane.
- 2 Connect to the remote server.  
Go to “Logging in to the Remote Server” on page 15-10 for complete information.
- 3 Under **Local System**, click the drive, directory, and folder that contains the Liquid Master files (.lqm) you want to publish.
- 4 Do one of the following:
  - To transfer LQM files using the drag-and-drop method, go to step 5.
  - To transfer LQM files using the manual method, go to step 6.
- 5 To transfer LQM files using the drag-and-drop method, do the following:
  - A In the **Local Server** window, select the source folder you want to publish.
  - B Press and hold down the left mouse button.
  - C Drag the file to the **Remote Server** window.  
The cursor changes to an arrow with a + character.
  - D Move the folder over the target location.

	The target is highlighted.	1
E	In the <b>Remote Server</b> window, drop the folder on the target location by releasing the left mouse button.	2
		3
	The upload process is initiated.	4
6	To transfer LQM files using the manual method, do the following:	5
		6
A	In the <b>Local Server</b> window, select the source folder you want to publish and click the left mouse button.	7
		8
		9
	The folder is highlighted.	10
B	In the <b>Remote Server</b> window, select the target location for the folder and click the left mouse button.	11
		12
	The target is highlighted.	13
C	Click <b>Publish</b> .	14
	The upload process is initiated. Information about the file transfer displays in the Status window and Upload Progress bar at the bottom of the Publish pane. After the file transfer starts, the Publish button changes to Abort, enabling you to stop the process, if necessary.	15
		16
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	When the process is done, the message, “Successfully completed upload,” appears in the Status window.	19
		20
	Note: Occasionally, the new folders and published files on the remote server will contain slightly modified names. The publish mechanism replaces all non-alphanumeric characters in the names with an underscore (_). This prevents the generation of invalid URLs for the published files.	21
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## Publishing Liquid Masters in Nested Folders

Use the following procedure to publish LQM files contained in nested folders on the Local System to the Remote Server window. This action creates a folder using the same name as the source folder, recreates the hierarchical structure of the nested folders, and transfers all LQM files in all nested folders to the remote server.

To publish Liquid Masters in nested folders:

- 1 Open the **Publish** pane.
- 2 Connect to the remote server.  
Go to “Logging in to the Remote Server” on page 15-10 for complete information.
- 3 Under **Local System**, click the drive, directory, and folder that contains the Liquid Master files (.lqm) you want to publish.
- 4 Select the source folder you want to publish.
- 5 Press and hold down **CTRL** and the left mouse button.
- 6 Drag the folder to the **Remote Server** window.  
The cursor changes to an arrow with a + character.
- 7 Move the folder over the target location.  
The target is highlighted.
- 8 In the **Remote Server** window, drop the folder on the target location by releasing **CTRL** and the left mouse button.  
The upload process is initiated.

The file transfer process starts. Information about the file transfer displays in the status bar at the bottom of the Publish

pane. After the file transfer starts, the Publish button changes to Abort, enabling you to stop the process, if necessary.

When the process is done, the message, “Successfully completed upload,” appears in the Status window.

Note: Occasionally, the new folders and published files on the remote server will contain slightly modified names. The publish mechanism replaces all non-alphanumeric characters in the names with an underscore (\_). This prevents the generation of invalid URLs for the published files.

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## About the Publishing Process

Liquifier Pro performs all uploads as a background operation. This enables you to continue working while publishing files to the music server.

If you want to use Liquifier Pro for other tasks during an upload, simply open a different pane and get to work without disrupting the connection. It is recommended, however, that you not perform any tasks or use any applications that demand a share of your network connection, as this may delay the upload process.

The publishing process is designed for minimal user intervention. Unless errors are encountered during the process, no additional user interaction will be required.

Once uploading has started, you cannot add files to the current batch without aborting the process. If you abort the process, the partially uploaded file is deleted from the remote server. Files successfully uploaded prior to stopping the process are not deleted from the server.

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## Troubleshooting Publishing Problems

Each file that contains an encrypted audio image is enabled for sale during the publishing process. If the file cannot be successfully added to the sale list, a warning is displayed in the Publish pane.

The Remote Server window shows icons to represent the status of the transferred LQM files. If a file is successfully published to the remote server, a dollar sign character (\$) appears next to the file.

If a problem is encountered during the file transfer process, the process stops, and the file is not uploaded to the remote server. Review the information in the status window to determine the cause of the problem.

In addition, you might want to review the list of requirements for publishing Liquid Masters to a remote server. Go to “Publish Pane—Requirements” on page 15-4 for more information.

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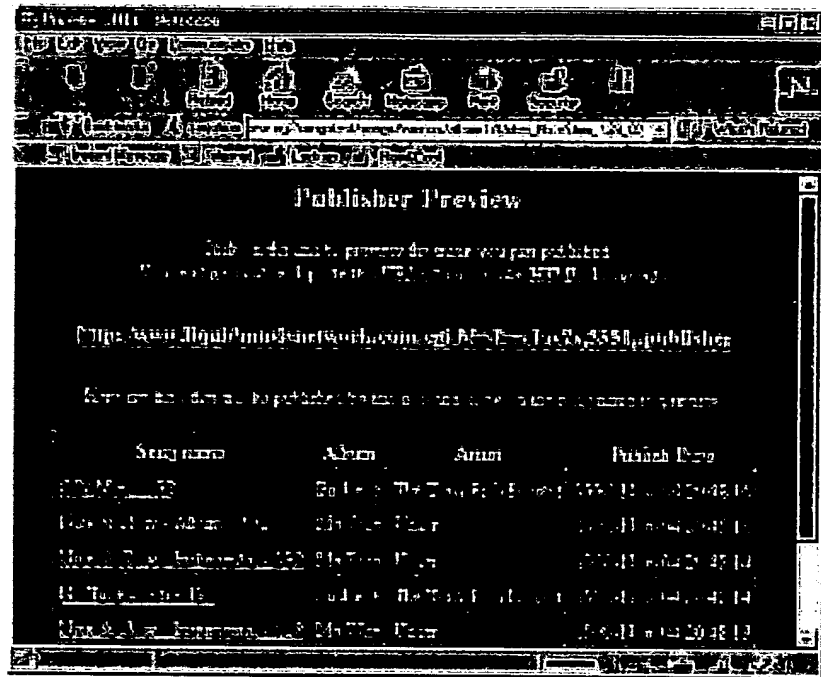
## Aborting the Publishing Process

To abort the publishing process:

- On the **Publish** pane, click **Abort**.

When an upload is aborted, the partially uploaded file is deleted. Files successfully uploaded prior to aborting the publishing process are not deleted.

.....	1
Auditioning Liquid Masters	2
Once a Liquid Master file has been uploaded to the music server, you can audition the file to ensure that it meets with your satisfaction. To audition an LQM file, you'll need access to the following:	3
• Liquid Music Player	4
• Web browser (such as Internet Explorer or Netscape)	5
To audition a Liquid Master:	6
1 Open the <b>Publish</b> pane.	7
2 From the <b>Remote Server</b> window, select the Liquid Master you want to audition.	8
The URL field is enabled. It shows the Internet address consumers will use to stream and download the published Liquid Masters.	9
Note: If the URL does not appear when you select a file in the Remote Server window, contact your system administrator for assistance.	10
3 Click <b>Audition</b> .	11
Liquifier Pro launches your Web browser, opens the Liquid Music Player, and starts playback of the selected file.	12
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- 4 Use the Liquid Music Player to stream the song and review all associated text and graphics.

## Managing Folders on the Remote Server

Folders serve as containers for organizing your Liquid Masters on the remote server. You can create or delete folders, as necessary, using commands provided in the Publish pane.

## Using the Context Menu—Publish Commands

Commands for managing folders are available in the pop-up context menu.

To use the context menu:

- 1 Position the pointer in the **Remote Server** window.
- 2 Select the folder you want.
- 3 Click the right mouse button.  
A list of commands opens in the **Publish** pane.
- 4 Select the command you want from the menu.

## Creating Folders

To create a folder:

- 1 Open the **Publish** pane.
- 2 Connect to the remote server.  
Go to “Logging in to the Remote Server” on page 15-10 for complete information.
- 3 From the **Remote Server** window, select the target directory for the new folder.
- 4 Do one of the following:
  - On the **Context** menu, click **Create Folder**.
  - Press **INSERT**.

A new folder appears in the target directory. The folder is called “New\_Project”. If a folder called “New\_Project” already exists in this folder, a number is appended to the end of the name (e.g. New\_Project\_01).



## Deleting Folders

If you no longer need a folder, you can delete it from the remote server. To perform this procedure, the folder must be empty. If the folder is not empty, an error message displays and the folder is not deleted.

To delete a folder:

- 1 Open the **Publish** pane.
- 2 Connect to the remote server.  
Go to “Logging in to the Remote Server” on page 15-10 for complete information.
- 3 From the **Remote Server** window, select the folder you want to delete.
- 4 Do one of the following:
  - On the **Context** menu, click **Delete Folder**.
  - Press **DEL**.A confirmation window appears.  
Note: For future delete operations, you can suppress the confirmation window by pressing **CTRL +DEL**.
- 5 Click **Yes**.

The folder is deleted from the remote server.

.....	1
Managing Liquid Masters on the Remote Server	2
This section explains how to manage Liquid Masters	3
uploaded to your account on a Liquid Music Server. You can	4
perform any of the following tasks using commands supplied	5
in the Publish pane:	6
• Rename Liquid Masters	7
• Move Liquid Masters	8
• Delete Liquid Masters	9
• Replace Liquid Masters	10
<b>Renaming Liquid Masters</b>	11
To rename a Liquid Master:	12
1 Open the <b>Publish</b> pane.	13
2 Connect to the remote server.	14
Go to “Logging in to the Remote Server” on page 15-10	15
for complete information.	16
3 From the <b>Remote Server</b> window, select the file you	17
want to rename.	18
4 Do one of the following:	19
• On the <b>Context</b> menu, click <b>Rename File</b> .	20
• Press <b>F2</b> .	21
5 Type the new file name.	22
6 Press <b>ENTER</b> to apply the name change.	23
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1 When you rename a file, Liquifier Pro checks for the use of  
2 invalid characters in the name and automatically filters them  
3 out. This action automatically updates the URL used to link  
4 to the file. Be sure to revise the hyperlink on your web page,  
accordingly.

## 5 **Moving Liquid Masters**

6 To move a Liquid Master:

- 7 1 Open the **Publish** pane.
- 8 2 Connect to the remote server.  
9 Go to “Logging in to the Remote Server” on page 15-10  
10 for complete information.
- 11 3 From the **Remote Server** window, select the file you  
12 want to move.
- 13 4 Press and hold down the left mouse button.
- 14 5 Drag the file to the target directory and release the  
15 mouse button.

16 The file moves to the folder. This action automatically  
17 updates the URL used to link to the file. Be sure to revise the  
hyperlink on your web page, accordingly.

## 18 **Deleting Liquid Masters**

19 Deleting a Liquid Master file removes it from the remote  
20 server.

21 To delete a Liquid Master:

- 22 1 Open the **Publish** pane.
- 23 2 Connect to the remote server.  
24 Go to “Logging in to the Remote Server” on page 15-10  
25 for complete information.

- 3 From the **Remote Server** window, select the file you want to delete. 1
  - 4 Do one of the following: 2
    - On the **Context** menu, click **Delete File**. 3
    - Press **DEL**. 4

A confirmation window appears. 5

Note: For future delete operations, you can suppress the confirmation window by pressing **CTRL +DEL**. 6
  - 5 Click **Yes**. 8
- The file is deleted from the remote server. 9

## Replacing Liquid Masters 10

If you update an LQM file, you can easily overwrite the previous version of the file by replacing it on the remote server. 11

To successfully replace the old file with the new one, you must use the same file names. 12

To replace a Liquid Master: 13

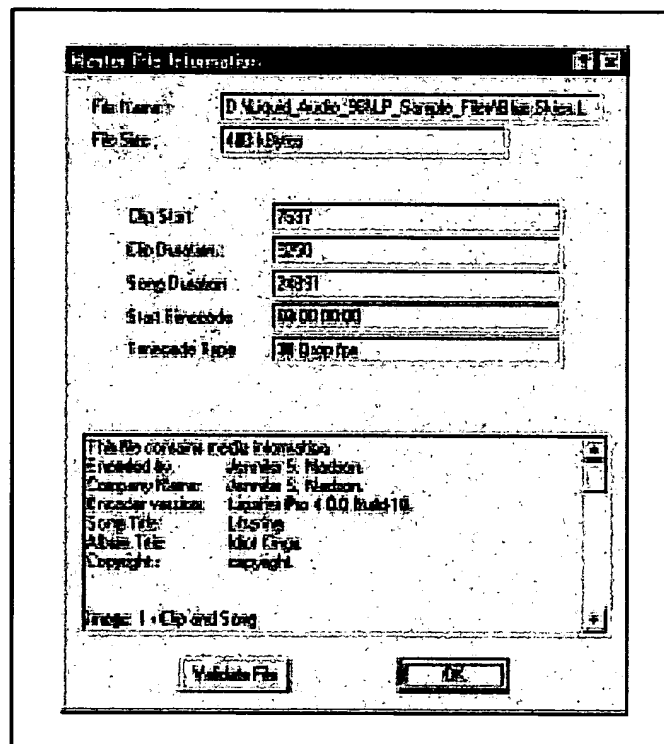
- 1 Open the **Publish** pane. 14
  - 2 Connect to the remote server. 15
- Go to “Logging in to the Remote Server” on page 15-10 for complete information. 16
- 3 From the **Local System** window, select the new file you want to upload. 17
  - 4 Drag the file to the **Remote Server** window and drop it on the old file you want to replace. 18
- A confirmation window appears. 19
- 5 Click **Yes**. 20
- The new file replaces the old file on the remote server. 21

## Viewing the Contents of Liquid Masters

The Liquifier Pro provides the capability to view a summary of the LQM file contents without opening it for editing.

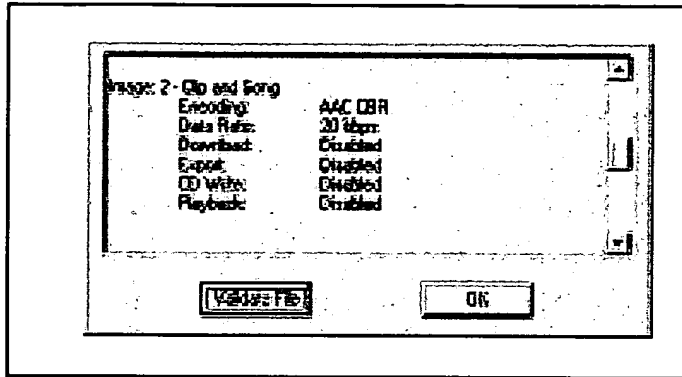
### Master File Information Window—Contents

File summary information is presented in the Master File Information window. This window is accessible from the File Summary command in the File menu, or from the context menu in the Publish pane.



*Liquifier Pro—Master File Information Window*

You can drag the scroll box to move through all information displayed in the window.



*Liquifier Pro—Scroll Box in Master File Information Window*

The Master File Summary window displays the following information:

- Song title
- Album Title
- Copyright
- Liquifier version used to encode the file
- User name and Company that encoded the LQM file
- Each audio image that is contained in the LQM file

1 For each audio image that is contained in the file, the  
2 following summary information is provided:

- 3 • Whether the audio is only a clip or a clip and song.
- 4 • The type of codec used to encode the audio. Five options  
5 are available:
  - 6 • **AC-3 CBR**—Dolby Digital compressed encoding  
7 for streaming.
  - 8 • **AC-3 VBR**—Dolby Digital compressed encoding  
9 for download.
  - 10 • **AAC CBR**—MPEG-2 AAC compressed encoding  
11 for streaming.
  - 12 • **AAC VBR**—MPEG-2 AAC compressed encoding  
13 for download.
  - 14 • **PCM**—linear uncompressed audio for post-  
15 production.
- 16 • **Data Rate**—Shows the data rate of the compressed audio,  
17 given as kilobits per second (Kbps). This number specifies  
18 the amount of data used to represent one second of audio.
- 19 • **Download**—Indicates whether download is disabled,  
20 enabled or secure (the audio is encrypted)
- 21 • **Export**—Indicates whether the audio image can be  
22 exported to standard linear formats.
- 23 • **CD Write**—Indicates whether the audio image can be  
24 burned to a CD using a CD-R.
- 25 • **Playback**—Indicates whether the audio image can be  
played back when downloaded.

## Viewing the Contents of Liquid Masters

To view the contents of a Liquid Master:

- 1 Open **Liquifier Pro**.
- 2 Do one of the following:
  - On the **View** menu, click **Publish Pane**.
  - On the **Liquifier Pro** taskbar, click **Publish**.
- 3 In the **Local Server** window, select the Liquid Master file (.lqm) you want to view.

The file is highlighted.
- 4 Position the pointer on the file, click the right mouse button, and select **File Summary**.

The Master File Information window opens.
- 5 Review the information in the window.
- 6 Drag the scroll box to move through the information.
- 7 Do one of the following:
  - To validate the Liquid Master file, go to “Validating Liquid Masters” on page 15-34.
  - To close the Master File Information window, click **OK**.



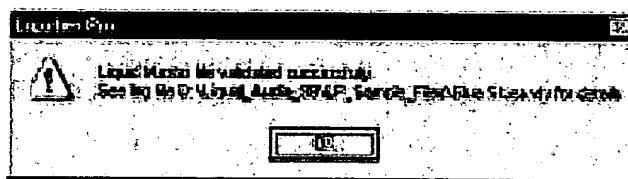
## Validating Liquid Masters

Every LQM file that is published to a Liquid Music Server is validated before it is uploaded, to ensure that it is compatible with the server. If the file is invalid, it is not published to the server. You are notified through a warning dialog that the file is invalid and encouraged to check it using the validate feature of the Liquifier Pro. You can access the validate feature from the Master File Summary dialog.

To validate a Liquid Master:

- 1 Open the **Master File Information** window.
- 2 Click **Validate File**.

A confirmation window opens.



- 3 Review the information in the window.
- 4 When you are done viewing the information, click **OK**.  
The confirmation window closes.
- 5 Click **OK**.

The Master File Information window closes.

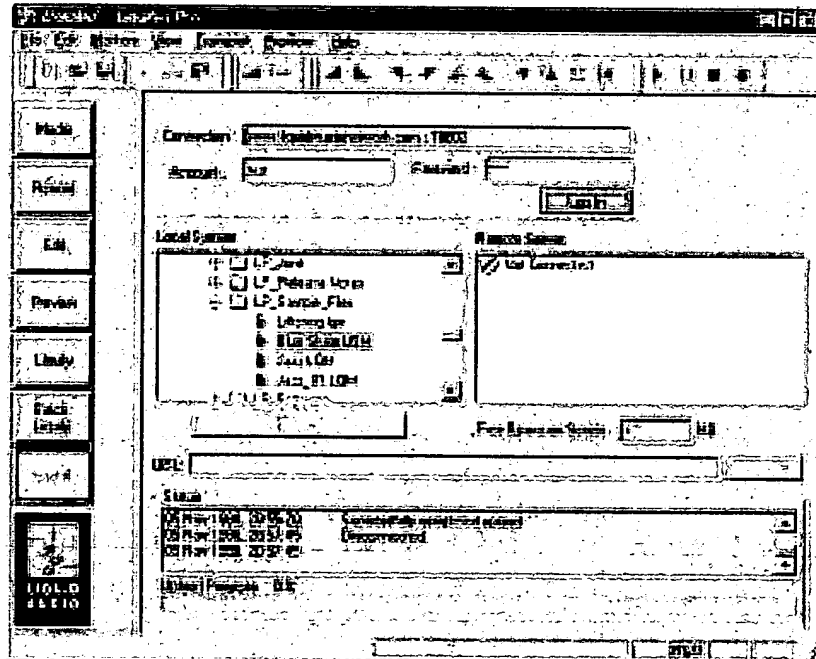
A report file is created in the same directory as the LQM file, with the same name as the LQM file and a .vfy extension. For example, if you are validating a file called Track1.LQM that resides in C:\temp directory, the validate function will create a file called Track1.VFY in the C:\temp directory. The report file is a text file that can be opened using any standard text editor.

## Logging Out from the Remote Server

To log out from the remote server:

- On the **Publish** pane, click **Log Out**.

The connection to the remote server is closed. The message, “Disconnected,” appears in the Status window.



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## Closing the Publish Pane

To close the Publish pane:

- On the **Liquifier Pro taskbar**, click a workspace pane button.

The Publish pane closes and the workspace pane you selected opens on your desktop.

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## Congratulations!

Now that you've mastered the overall Liquifier production process, you can continue to prepare, produce, and offer great CD-quality music for your Internet clientele.

Be sure to visit the Liquid Audio Web site at [www.liquidaudio.com](http://www.liquidaudio.com) and browse the technical support pages for the latest tips and updates on Liquifier Pro.

# *Customizing Liquifier Pro*

The Liquifier Pro provides a number of options that you can customize to facilitate the process of recording, editing, previewing, encoding, and publishing your music. Although many of these options are described in previous chapters of the manual, this chapter summarizes all user preferences you can enable for use during a Liquifier Pro session.

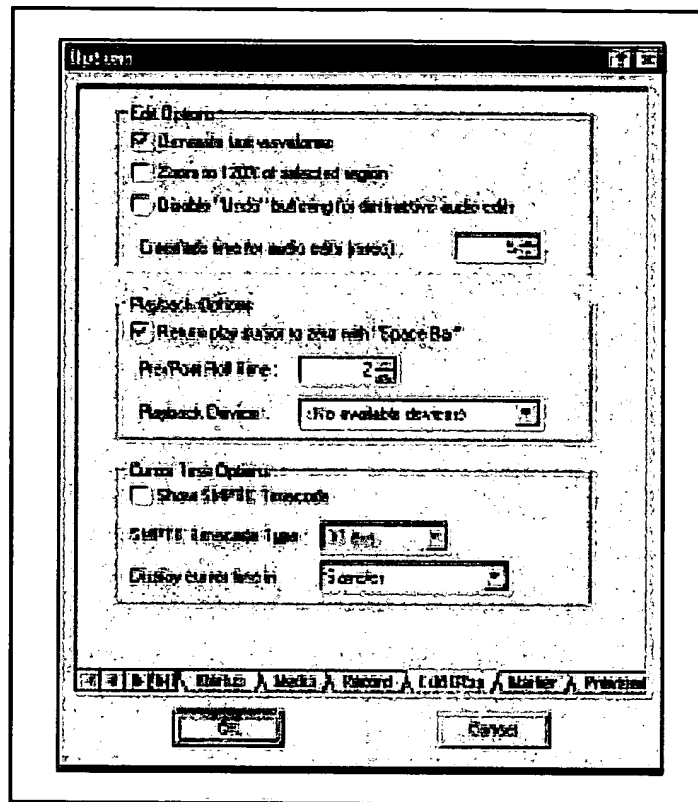
You can customize these options at any time during a session; however, you might find it most useful to set the ones you want before recording or importing your music into Liquifier Pro.

As you become more familiar with the features and functions of the Media, Record, Edit, Preview, Liquify, Batch Liquify, and Publish panes, you can return to this chapter and change the options to best suit the requirements of your current project.

CHAPTER	
16	1
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## A Tour of the Options Window

The Options window, which is accessed through the View menu in the Liquifier Pro menu bar, provides seven tabbed pages that let you customize settings for recording, editing, previewing, encoding, and publishing your music.



*Liquifier Pro—Options Window*

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Options Window—Tabs	2
	3
The seven tabbed pages, referred to as option pages, provide the following functions:	4
	5
• <b>Startup</b> —Selects options for loading media information (such as record label, copyright, and rights reporting agency) and encoding presets (data rates and encoding parameters) from a Liquid Audio file into Liquifier Pro during application startup.	6
	7
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	9
• <b>Media</b> —Sets preferences for displaying playing time and media information from Liquid Master files (.lqm) during application startup. Also, displays the Library and Custom tabbed pages in the Media pane.	10
	11
	12
• <b>Record</b> —Selects options for recording, importing, and saving WAV sound files (.wav) in the Record pane.	13
	14
• <b>Edit/Play</b> —Specifies preferences for editing files, playing files, and displaying cursor time in the Edit pane.	15
	16
• <b>Marker</b> —Selects marker and fade defaults for clips and songs in the Edit and Preview panes.	17
	18
• <b>Preview/Encode</b> —Sets options for displaying cursors, licensing information, digital watermark information, and presets in the Preview and Liquify panes.	19
	20
• <b>Batch</b> —Specifies a destination directory for batch WAV files, as well as creates batch log files during a batch liquify operation.	21
	22
• <b>Publish</b> —Selects preferences for uploading and publishing clips and songs to an internet publish server.	23
	24
• <b>Warning</b> —Hides warning messages when recording or editing audio sound files.	25

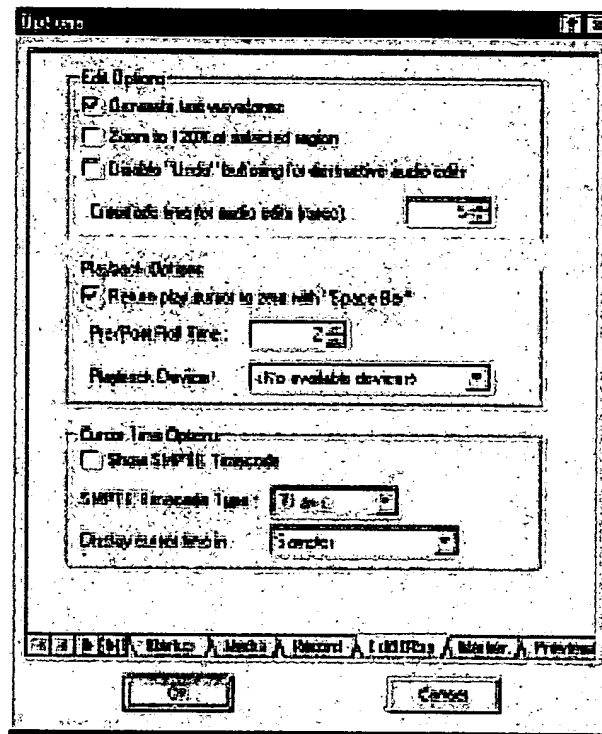
Options specific to each tabbed page are described in subsequent sections of this chapter.

## Opening the Options Window

To open the Options window:

- 1 Start **Liquifier Pro**.
- 2 On the **View** menu, click **Options**.

The Options window opens.



Liquifier Pro displays the options page for the last workspace pane displayed on your desktop.

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## Displaying Options for Workspace Panes

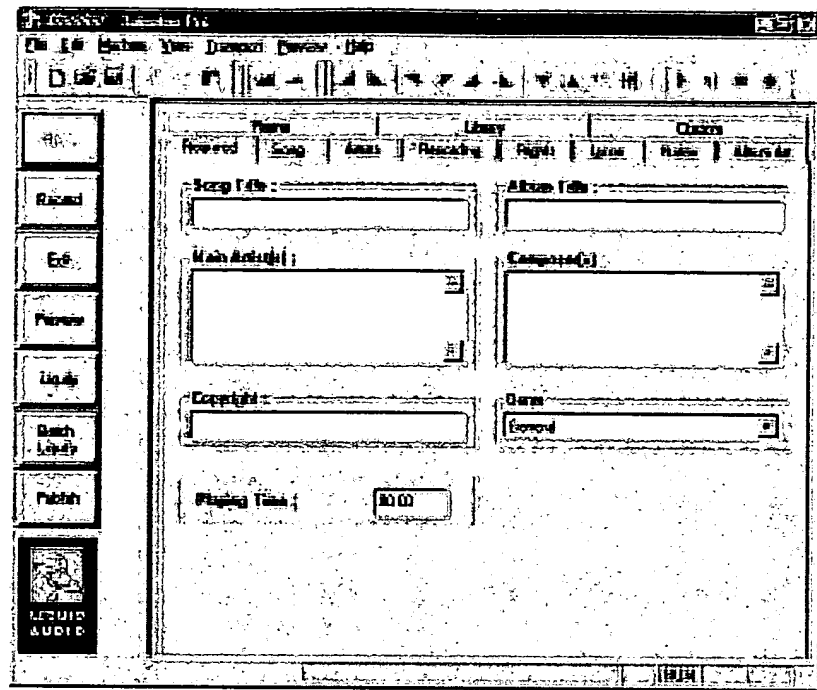
When you are working in a specific workspace pane, such as the Media pane, you can quickly open the Options page for that pane by using the View menu.

To display options for a workspace pane:

- 1 Start **Liquifier Pro**.
- 2 Do one of the following:
  - From the task bar, click the workspace pane you want.
  - From the **View** menu, click the workspace pane you want.



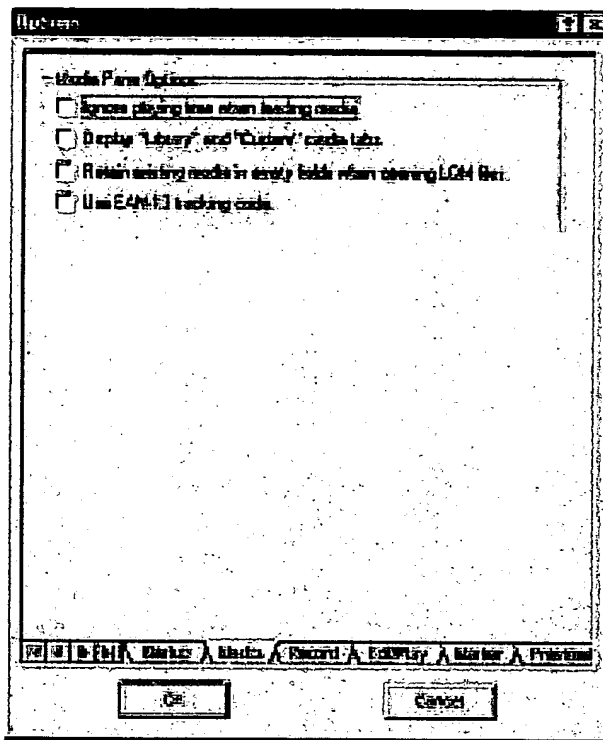
The workspace pane appears on your desktop.



3 On the **View** menu, click **Options**.

The options page for the associated workspace pane

appears on your desktop.








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## Navigating the Options Tabs

You navigate among the tabbed pages in the Options window by using the arrow buttons or tabs that appear at the bottom of the window.

**Table 16–1: Options Window—Navigation**

To	Do this
Display a tabbed page	Click the tab,  , you want
Scroll to the first tab in the list	Click the  arrow button
Scroll to the last tab in the list	Click the  arrow button
Scroll to the next tab in the list	Click the  arrow button
Scroll to the previous tab in the list	Click the  arrow button

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## Customizing Media and Preset Startup Options

The Startup Options page sets preferences for loading media information (such as record label, copyright, and rights reporting agency) and encoding presets (data rates and encoding parameters) from a Liquid Audio file into Liquifier Pro during application startup.

### Customizing Media Startup Options

You can choose to automatically load media information from a Liquid Master file (.lqm), a Liquifier Audio Workspace file (.law), or a formatted text file (.txt) when you start a Liquifier Pro session.

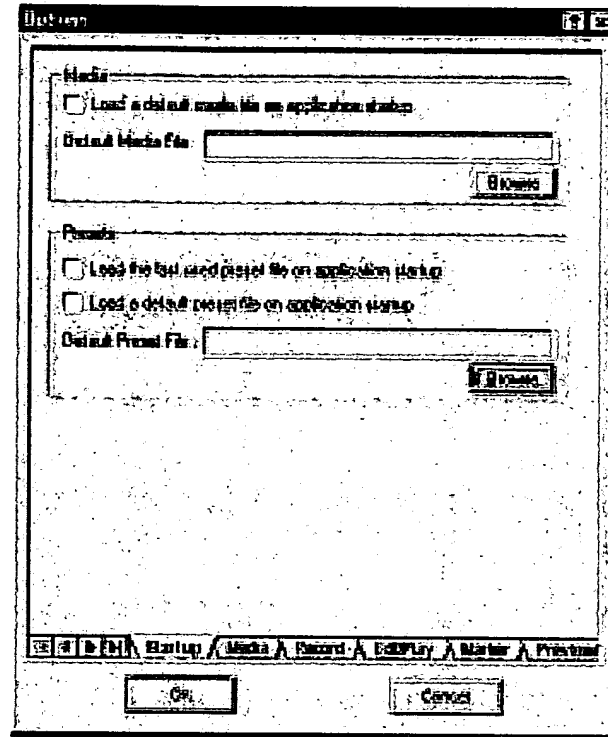
Liquifier Pro extracts all of the information from the media file, such as the artist, conductor, producer, recording studio, and performance rights agency, and automatically loads it into the text fields of the Media and Liquify panes during application startup. Information related to pricing, like the **Download Price** or **Order CD URL**, is only loaded into the Liquify pane.

If you want to change any of the information that is loaded into a pane, you can do so by editing the text in the text fields after it has been loaded into Liquifier Pro.

To customize media startup options:

- 1 On the **Options** window, click the **Startup** tab.

The Startup Options page opens.



- 2 Under Media, select the **Load default media file on application startup** check box.
- 3 Click **Browse**.



## Customizing Preset Startup Options

A new option has been added that allows you to choose between opening a specified preset file at startup, loading the last preset file used at startup, or not loading any preset at startup.

If you choose the option to automatically load factory and user presets at system startup, data rates and encoding parameters are extracted from the selected preset file and loaded into the Preview pane.

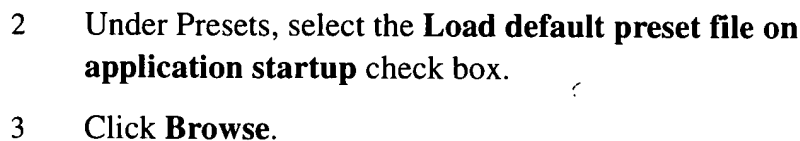
Installing a preset file can save time because you no longer need to define commonly used presets for each track you want to preview.

If you do not select a preset file to load during system startup, Liquid Pro will load the last preset file you used during the previous session.

To customize preset startup options:

- 1 On the **Options** window, click the **Startup** tab.

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**Select Diskset Project File**

Look in: **C:\**

<input type="checkbox"/> Acrobat3	<input type="checkbox"/> Dico	<input type="checkbox"/> Program Files	<input type="checkbox"/> Windows
<input type="checkbox"/> Adobeapp	<input type="checkbox"/> Egemon	<input type="checkbox"/> polenta	<input type="checkbox"/> Windows
<input type="checkbox"/> Auto	<input type="checkbox"/> Elib	<input type="checkbox"/> Quackawa	
<input type="checkbox"/> Backup	<input type="checkbox"/> H300lines	<input type="checkbox"/> tools_25	
<input type="checkbox"/> Carnet	<input type="checkbox"/> Multimedia Files	<input type="checkbox"/> Web Server	
<input type="checkbox"/> Dell	<input type="checkbox"/> My Documents	<input type="checkbox"/> WebSpace	

File name:

Files of type: **All Files (\*.\*)**

**Open** **Cancel**



4     Select the user preset file (.flt) you want.  
      If you do not see the file you want, select a different  
      drive, directory, or folder.

5     Click **Open**.  
      The Default Preset File window closes and the path-  
      name appears in the Default Preset File text field.

- 6     To enable the new options, do the following:
- A)    On the **Options** window, click **OK**.  
      The Options window closes.
  - B)    On the **File** menu, click **Exit**.  
      The Liquifier Pro window closes and the current  
      session ends.
  - C)    Restart **Liquifier Pro**.

      The new options are enabled and ready to use.

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## Customizing Media Options

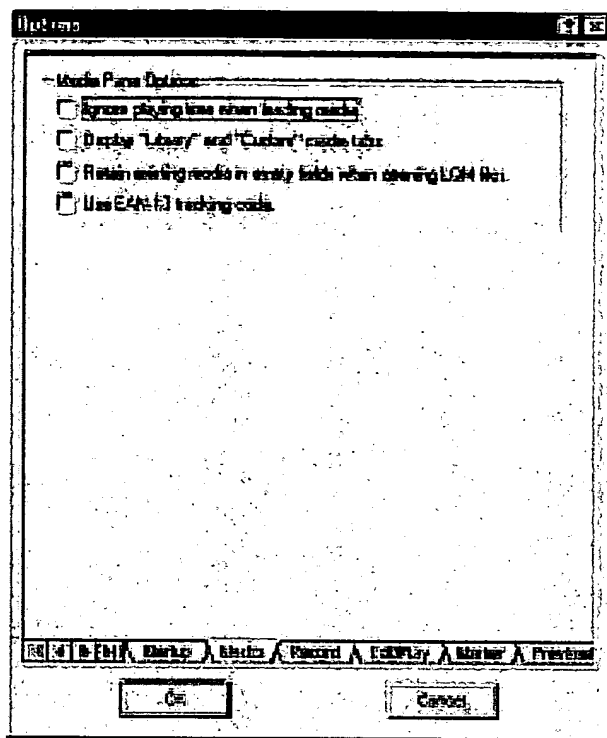
The Media Options page lets you display playing time and media information from Liquid Master files (.lqm) during application startup. It also allows you to display the Library and Custom tabbed pages in the Media pane, which are useful for post production work.

The Library tab is designed for users who are encoding sound effects libraries. The Custom tab allows user-defined information to be stored with the file. For example, you can store the database key for any additional meta-data in the Custom tab.

To customize media options:

- 1 On the **Options** window, click the **Media** tab.

The Media Options page opens.



- 2 Under **Media Pane Options**, do one or more of the following:
  - To prevent the playing time in a Liquid Master file (.lqm) from automatically loading in the **Playing Time** text field, select the **Ignore playing time when loading media** check box.

- To display the Library and Custom tabs when the Media Pane is opened, select the **Display Library and Custom media tabs** check box.

Select this option if you need to include special sound tracks, versions, keywords, or database information along with the standard media information.

- To replace empty fields in a Liquid Master file with the current media information displayed in the Media pane, select the **Retain existing media in empty fields when importing media** check box.

This option determines whether all the media fields are cleared prior to importing media. When this option is enabled, the fields that are contained in the media import file replace the Media pane fields. All fields that are not contained in the media import file remain unchanged. If the media import file contains fields with no data, this will have the effect of clearing the Media pane.

Note: If you select this option, LQM files are not updated until you select the Save command in the File menu.

- 3 To enable the new options, click **OK** on the **Options** window.

The Options window closes and the options are ready to use.

## Customizing Record, Import, and Save Options

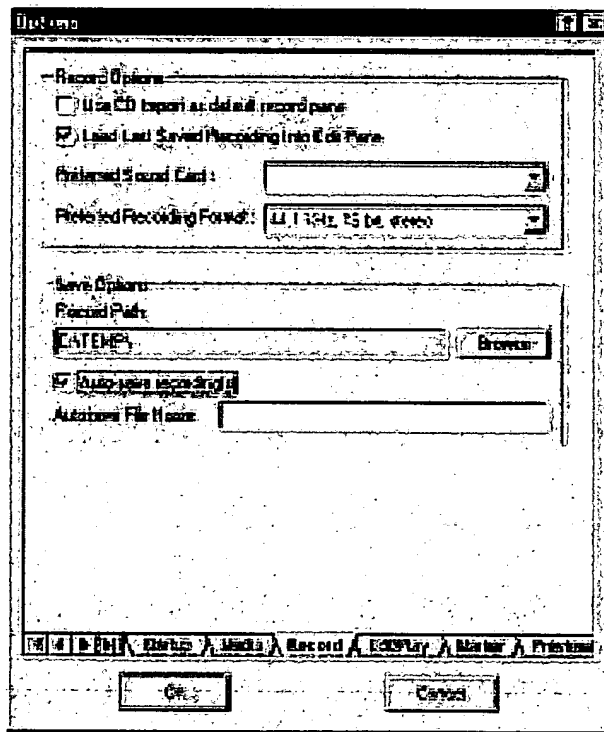
The Record pane provides options for two related windows: the Wave Record pane and the CD Import pane. The Record Options page lets you set preferences for recording, importing, and saving audio sound files (.wav) using these two panes.

### Customizing Record/Import Options

To customize record/import options:

- 1 On the **Options** window, click the **Record** tab.

The Record Options page opens.



- 2 Under **Record Options**, do one or more of the following:
- To automatically display the CD Import pane (rather than the Wave Record pane) when the Record pane is opened, select the **Use CD import as default record pane** check box.
- Use this option if you most often perform direct digital extractions of audio from a CD, rather than record audio tracks through a sound card.
- To automatically load the last recording you made into the Edit pane, select the **Load last saved recording into Edit pane** check box.
  - To select the sound card to use when recording, choose the card you want from the **Preferred Sound Card** list.
- The Liquifier Pro lists all supported sound cards for recording in the Preferred Sound Card list. Use this option if you have more than one sound card installed in your system and you prefer to use a specific sound card for the default line-in.
- To select the record format (sample rate, resolution, and channels) to use for recording through the sound card, select the format from the **Preferred Recording Format** list.
- The Liquifier Pro lists all supported sound cards for recording in the Preferred Recording Format list.
- 3 To enable the new options, click **OK** on the **Options** window.

The Options window closes and the options are ready to use.

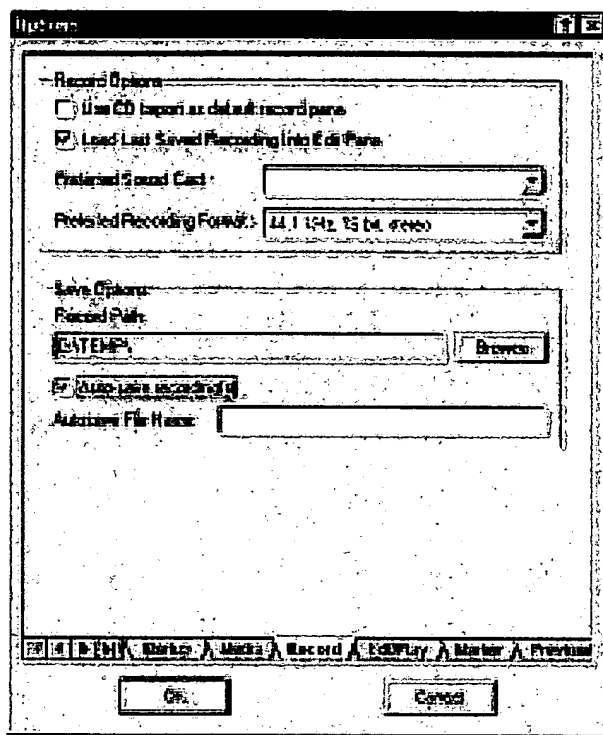
## Customizing Record File Save Options

The Save option lets you specify the default directory you want to use for saving all your recorded audio sound files.

To customize file save options:

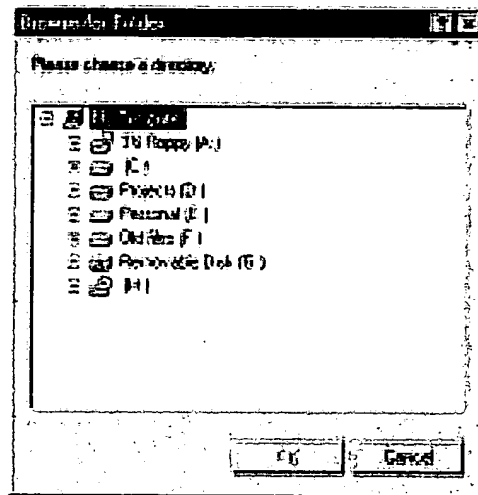
- 1 On the **Options** window, click the **Record** tab.

The Record Options page opens.



- 2 Under **Save Options**, do the following:
  - A) To specify a default location in which to save your audio sound files, click **Browse**.

1 The Browse for Folder window opens.



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11 B) Select the drive, directory, or folder in which you  
12 want to save your audio sound files.

13 C) Click **OK**.

14 The Browse for Folder window closes.

15 4 To enable the new options, click **OK** on the **Options**  
16 window.

17 The Options window closes and the options are ready to use.

## 18 Customizing Auto Save Options

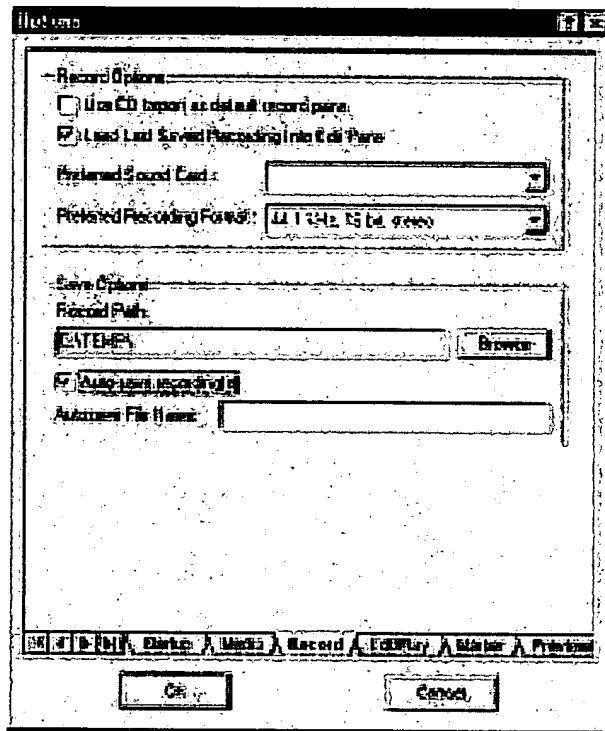
19 Typically, when you record an audio sound file and terminate  
20 the recording by clicking the Stop transport control, Liquifier  
21 Pro displays the File Save As dialog box, prompting you to  
22 name the file. This process can become time-consuming if  
23 you frequently import multiple files from a CD and you want  
24 to save each recording to a different file.  
25

The auto save options enable you to disable the File Save As window, and automatically append a unique name and take number to each file when recording is terminated. If you do not select this option, the File Save As window appears each time you terminate the recording process and prompts you to name the recording.

To customize auto save options:

- 1 On the **Options** window, click the **Record** tab.

The Record Options page opens.





- 2 Under **Save Options**, do the following:
  - A) To automatically save multiple recordings of an audio sound file into separate files by using the Record and Stop transport controls, select the **Auto-save recordings** check box.
  - B) To provide a default name for the autosave file, type a file name (such as *autosav*) in the **Auto-save filename** text field.

Note: The file name can be up to 32 characters long.

Liquifier Pro automatically appends a sequential number to the end of the file name, such as *autosav1*, and saves it as a WAV file in the specified directory.
- 3 To enable the new options, click **OK** on the **Options** window.

The Options window closes and the options are ready to use.

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## Customizing Edit and Playback Options

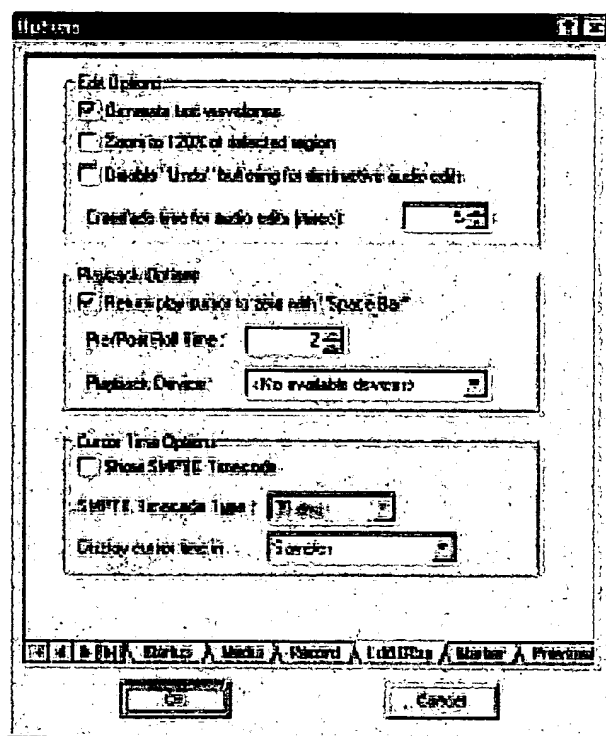
The Edit/Play Options page lets you set preferences for editing audio sound files, auditioning audio sound files, and displaying cursor time in the Edit pane.

## Customizing Edit Options

To customize edit/play options:

- 1 On the **Options** window, click the **Edit/Play** tab.

The Edit/Play Options page opens.



- 2 Under **Edit Options**, do one or more of the following:

- To quickly display a waveform when loading an audio sound file into the Edit pane, select the **Generate fast waveforms** check box.

Liquifier Pro generates the waveform quickly, but only approximates the accuracy of the audio peaks displayed in the window by displaying minimum and maximum values for selected samples.

Note: The audio sound file is accurately displayed when you zoom in on a sample in the waveform.

- To add an additional area of 10% to either end of the waveform when zooming in, select the **Zoom to 120% of selected regions** check box.

A gray region is appended to either side of the in- and out-points providing you with greater cursor control when zooming.

- To prevent Liquifier Pro from automatically creating backups of your audio edits, select the **Disable Undo buffering for destructive audio edits** check box.

**WARNING:** Although this option can save you disk space when editing audio sound files, you will not be able to recover edits made to a source file.

When this option is selected, material that is cut from a source file is permanently deleted and cannot be recovered.

- To specify the crossfades for cut and paste audio edits, click an arrow to select the number of milliseconds you want to use in the **Crossfade time for audio edits (msec)** spin box.

The crossfade prevents audible clicks from occurring during audio playback due to discontinuities at the cut-and-paste boundaries.

- 3 To enable the new options, click **OK** on the **Options** window.

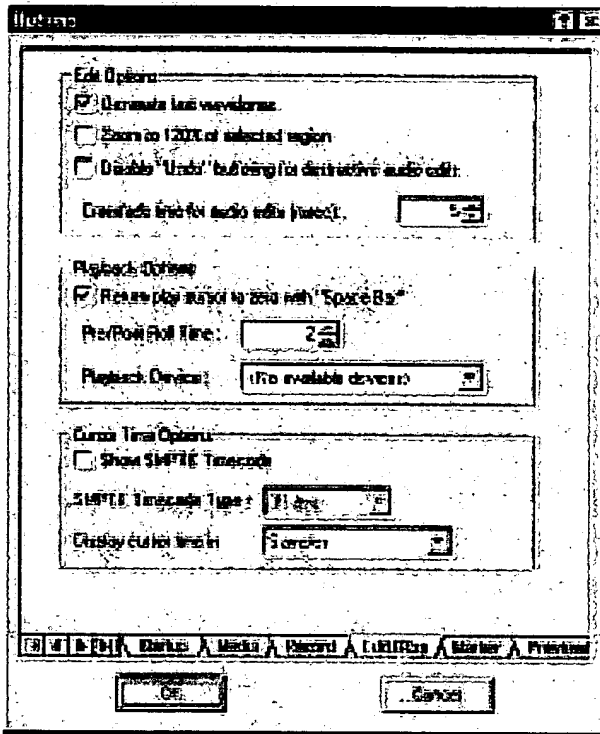
The Options window closes and the options are ready to use.

## Customizing Playback Options

To customize playback options:

- 1 On the **Options** window, click the **Edit/Play** tab.

The Edit/Play Options page opens.



- 2 Under **Playback Options**, do one or more of the following:
  - To automatically return the play cursor to the left cursor in the Edit pane when the spacebar is pressed, select the **Return play cursor to zero with spacebar** check box.

This action provides the same function as the Stop button in the Transport controls.

- To specify the number of seconds in which you can audition material that precedes or follows an audio selection, select the number of seconds you want in the **Pre/post Roll Time** spin box.

This option determines the number of seconds played before and after the cursor position.

- To select the default sound card you want to use from those installed on your system, select the device from in the **Playback Device** list.

The Liquifier Pro lists all the supported sound cards for playback in the Playback device list.

3 Under **Cursor Time Options**, do one or more of the following:

- To display timecode in SMPTE format, select the **Show SMPTE timecode** check box.

This selection adds SMPTE timecode as an option for the time representation of cursors. When this option is unchecked, only the Normal Time and Samples options are available for time representation. Displaying SMPTE timecode is an advanced option that is applicable mainly for post-production work.

When you select this option, the timecode appears in the Time Display Format area of the Edit window.

- Select the type of timecode you want, either fps (frames per second) or drop (drop frame) in the **SMPTE Timecode Type** list.
- To select a format for cursor time, select the format you want in the **Display cursor time in** list.

4 To enable the new options, click **OK** on the **Options** window.

The Options window closes and the options are ready to use.

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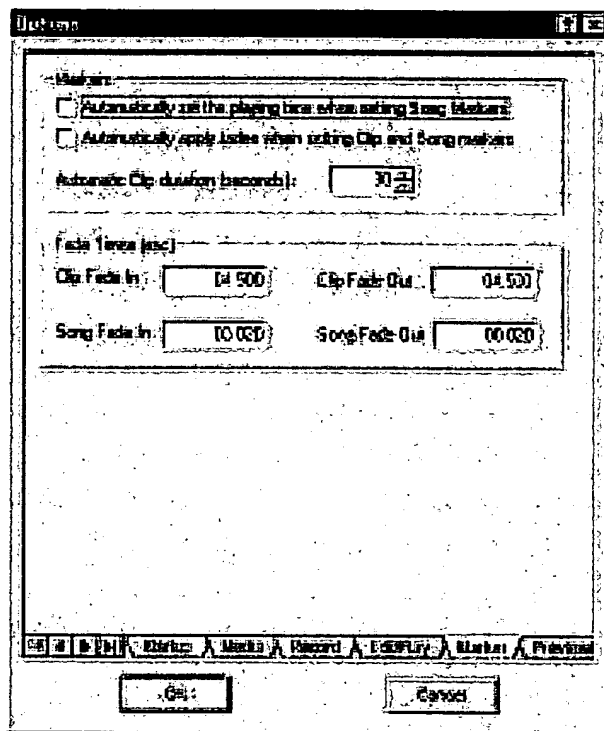
## Customizing Marker and Fade Options

This section explains how to customize audio markers and fade options for clips and songs. These options apply to both the Edit and Preview panes.

To customize marker and fade options:

- 1 On the **Options** window, click the **Marker** tab.

The Marker Options page opens.



2 Under **Markers**, do one or more of the following:

- To automatically update the playing time when the song markers change, select the **Automatically set the playing time when setting song markers** check box.

Liquifier Pro automatically changes the playing time in the media text fields at the same time you make changes to the song markers.

- To apply the default fade in and fade out times when the markers are set, select the **Automatically apply fades when setting clip and song markers** check box.
- To set the default duration of a clip selected with the **Automatic Clip Duration** command, click an arrow in the spin box to choose the time (in seconds) you want. Alternately, you can type the time you want in the field next to the spin box. The valid range is between 10 and 120 seconds.

3 Under **Fade Times (sec)**, do one or more of the following:

- To set the default **Clip Fade In** and **Clip Fade Out** times, type the time you want in the text fields.

The time is represented in seconds and milliseconds.

- To set the default **Song Fade In** and **Song Fade Out** times, type the time you want in the text fields.

4 To enable the new options, click **OK** on the **Options** window.

The Options window closes and the options are ready to use.

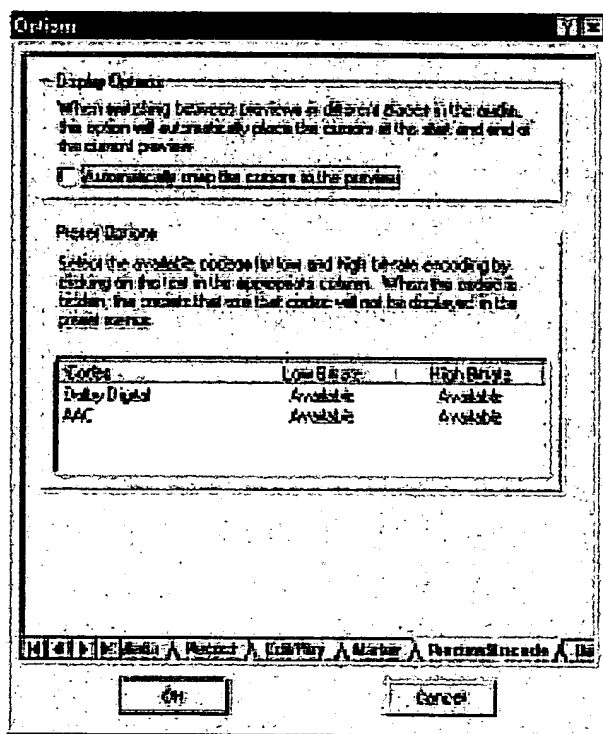
## Customizing Preview and Encode Options

This section explains how to set options for displaying cursors, licensing, watermarking, and presets in the Preview and Liquify panes.

To customize preview and encode options:

- 1 On the **Options** window, click the **Preview/Encode** tab.

The Preview/Encode Options page opens.







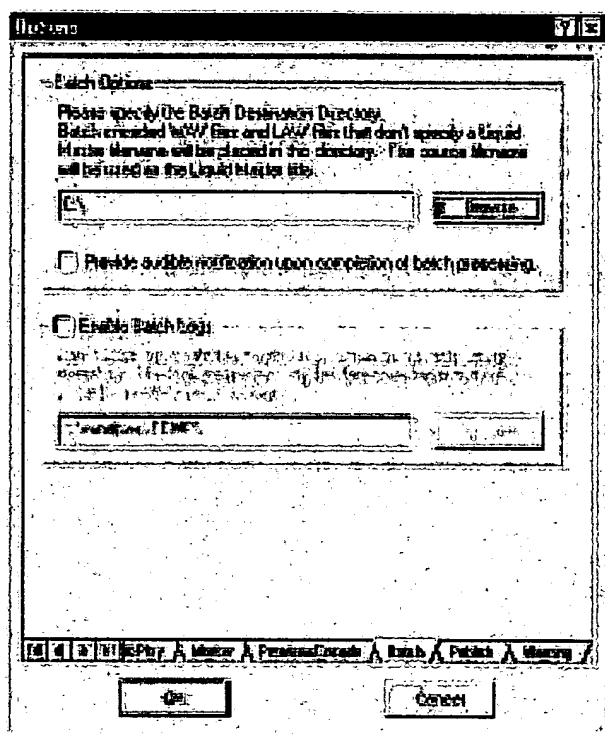
## Customizing Batch Liquify Options

This section explains how to specify a destination directory for batch WAV files, as well as to create batch log files during a batch liquify operation.

To customize batch liquify options:

- 1 On the **Options** window, click the **Batch** tab.

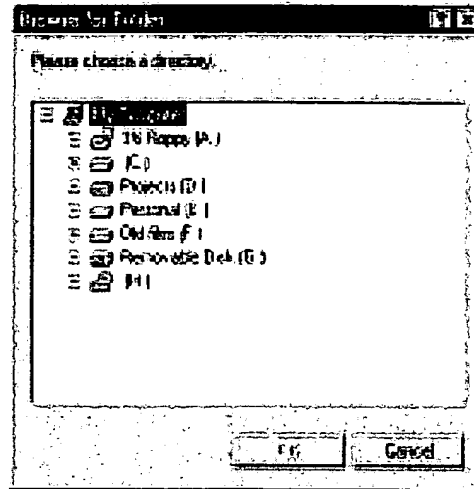
The Batch Liquify Options page opens.



2 Under **Batch Options**, do one or more of the following:

- A) To specify the destination directory for batch WAV files, click **Browse**.

The Browse for Folder window opens.



- B) Select the drive, directory, or folder in which you want to save the batch WAV files.

Selecting this option places all WAV files that are encoded using the Batch Liquify pane in this directory. Liquid Master files use the same name as the source WAV files, with an .lqm file extension.

- C) Click **OK**.

The Browse for Folder window closes.

- 4 To enable an audible sound when the batch operation is done, select the **Provide audible notification upon completion of batch processing** check box.

5	Under <b>Enable Batch Logs</b> , do the following:	1
A)	To create batch logs every time you start the batch liquify process, select the <b>Enable Batch Logs</b> check box.	2
		3
	Log names are generated using the date and time at which the batch encoding process starts. For example, LP_1998-10-04_5-45-22.log. A log file contains everything listed in the Status window of the Batch Liquify pane, but does not have a 64K restriction on length.	4
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B)	To specify a directory for the batch logs that is different from the default directory (c:\windows\temp), click <b>Browse</b> .	9
		10
	The Browse for Folder window opens.	11
C)	Select the drive, directory, or folder in which you want to save the batch log files.	12
		13
D)	Click <b>OK</b> .	14
	The Browse for Folder window closes.	15
5	To enable the new options, click <b>OK</b> on the <b>Options</b> window.	16
		17
	The Options window closes and the options are ready to use.	18
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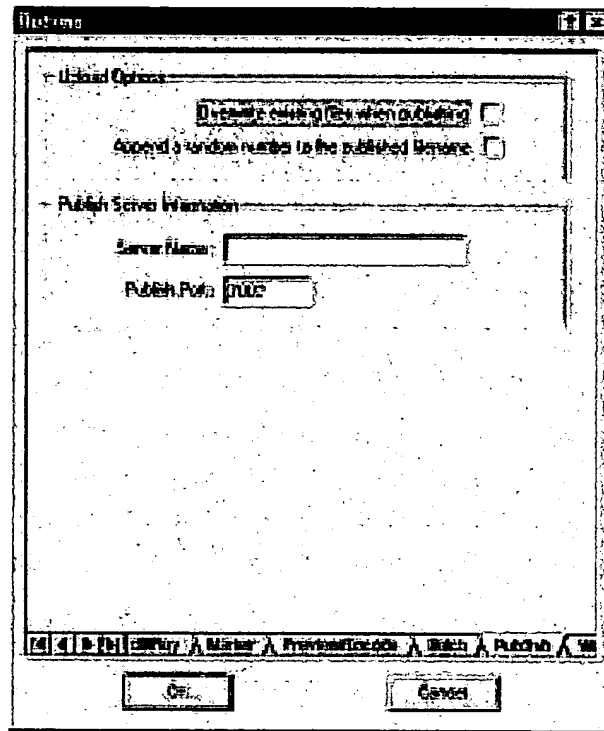
## Customizing Publish Options

This section explains how to set options for uploading and publishing music to your internet publish server. These options apply to the Publish pane.

To customize publish options:

- 1 On the **Options** window, click the **Publish** tab.

The Publish Options page opens.



2	Under <b>Upload Options</b> , do one or more of the following:	1
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	• To overwrite an existing Liquid Master file (.lqm) when uploading a file of the same name to the publish server, select the <b>Overwrite existing files when publishing</b> check box.	3
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	If a file with the same name already exists on the server, Liquifier Pro will automatically overwrite the file without prompting you.	6
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	If you do not want to overwrite Liquid Master files with the same name, do not select this option.	8
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	• To add a random number to the end of your file name, select the <b>Append a random number to the published filename</b> check box.	10
		11
	This 5-digit number is automatically added to a song when it is published. The number, which becomes part of the URL (Universal Resource Locator) for a web site, adds an extra level of security for internet commerce. It prevents unauthorized users from easily accessing your music on a web server.	12
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3	Under <b>Publish Server Information</b> , do the following:	17
	A) In the <b>Server Name</b> text field, type the name of your server.	18
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	You can enter the DNS (domain name server) entry address or the IP address.	20
		21
	B) In the <b>Publish Port</b> text field, type the port number. (Typically, the port number is 7002).	22
		23
	Note: If you do not know the server name or port, contact your music server provider for assistance.	24
		25
3	To enable the new options, click <b>OK</b> on the <b>Options</b> window.	

The Options window closes and the options are ready to use.

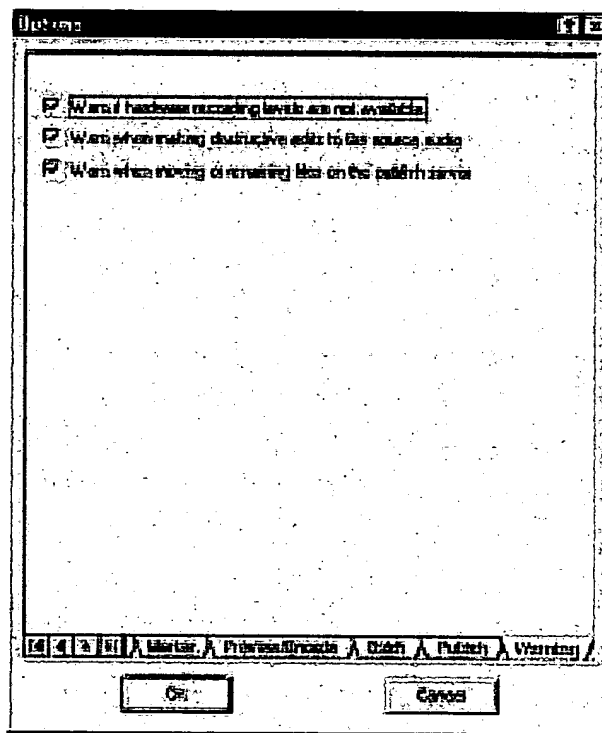
## Customizing Warning Options

Liquifier Pro posts warning messages when you record or edit audio sound files. You can choose to display or hide these messages during a session.

To customize warning options:

- 1 On the **Options** window, click the **Warning** tab.

The Warning Options page opens.



- 2 To display a window informing you when a record level cannot be retrieved from a sound card, select the **Warn if hardware recording levels are not available** check box.
- 3 To display a window informing you that a permanent audio cut is about to be made to a source file, select the **Warn when making destructive edits to the source audio** check box.
- 4 To display a window informing you when moving or renaming Liquid Master files (.lqm) on the publisher server, select the **Warn moving or renaming files on the publisher server** check box.
- 5 To enable the new options, click **OK** on the **Options** window.

The Options window closes and the options are ready to use.

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## Saving Custom Options

All option settings are saved in the registry when you close and exit the Liquifier Pro. All option settings are persistent between program instances. Options are never saved to a Liquifier Audio Workspace file (.law) when you close the Options window.

To save custom options:

- 1 From the **Options** window, click **OK**.

The Options window closes.

- 2 From the **File** menu, click **Exit**.

The Liquifier Pro window closes.



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## Canceling Custom Options

If necessary, you can discard the settings you selected during the current Liquifier Pro session and revert to the previous settings.

► To cancel custom options:

- Click **Cancel** in the **Options** window.

The Options window closes.

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## Using Custom Options

All options you select on an Options page are automatically applied when you click the OK button in the Options window.

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## Changing Custom Options

You can change the options initially set in the Options window at any time during a Liquifier Pro session. When you change an option, the new setting takes effect the next time you start Liquifier Pro. The new options remain in effect, until you change them using the Options window.

## Glossary

### amplitude

The absolute value reached by the current waveform.

### band pass filter

An electronic device that prohibits all but a specific range of frequencies to pass through it. A filter that has a finite passband, neither of the cutoff frequencies being zero or infinite. The bandpass frequencies are normally associated with frequencies that define the half power points, i.e. the -3 dB points.

### bandwidth

The numerical difference between the upper and lower -3 dB points of a band of audio frequencies. Used to figure the Q, or quality factor, for a filter.

### codec

Short for compressor/decompressor. A mathematical algorithm that specifies the type of compression used during audio encoding.

### compression

The process of transforming a block of data into a smaller block of data from which the former can be reconstructed.

### compressor

A signal processing device used to reduce the dynamic range of the signal passing through it by suppressing specific frequencies and waveforms.

### dB (decibel)

A unit that measures loudness or strength of a signal. dBs are a relative measurement derived from an initial reference level and a final observed level.



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**digital audio**

The reproduction and transmission of sound stored in a digital format. The Red Book specifies CD-Digital Audio at a sampling rate of 44.1 KHz and a sample size of 16 bits per sample, to produce high-quality stereo sound.

**digital audio data compression**

Commonly shortened to "audio compression." Any of several algorithms designed to reduce the number of bits (hence, bandwidth and storage requirements) required for accurate digital audio storage and transmission.

**Dolby Digital AC-3**

A standard for high-quality digital audio. It uses AC-3 compression (from a source PCM stream), with a sampling rate of 48 kHz and 16 bits per sample. It is of a higher quality than CD-Digital Audio and can have up to 5.1 surround-sound channels.

**dynamic range**

The ratio of the loudest (undistorted) signal to that of the quietest (discernible) signal in a unit or system as expressed in decibels (dB). Dynamic range is another way of stating the maximum signal-to-noise (S/N) ratio.

**encode**

To convert data by the use of a code in such a manner that reconversion to the original form is possible.

**encoder**

An algorithm or object that implements some form of encoding.

<b>encryption</b>	A data security technology that ties specific music to an individual. Consumers are issued a Music Passport, allowing them to purchase a Liquid Track. It licenses them to play back music on their computer and record it to a recordable-CD. Copies of Liquid Tracks cannot be distributed.	1 2 3 4 5 6
	A class of electronic filters designed to augment or adjust electronic or acoustic systems. Equalizers commonly modify the frequency response of the signal passing through them; that is, they modify the amplitude versus frequency characteristics.	7 8 9 10
<b>EQ (equalizer)</b>	A technique used to reduce distortion and compensate for signal loss (attenuation) over long distances.	11 12
	A signal processing device used to increase the dynamic range of the signal passing through it. Expanders complement compressors.	13 14 15
<b>equalization</b>	A signal processing device used to increase the dynamic range of the signal passing through it. Expanders complement compressors.	16 17
	To smoothly change the strength or loudness of an audio signal, as in fade in or fade out.	18 19
<b>fade</b>	Any of various electric, electronic, acoustic, or optical devices used to reject signals, vibrations, or radiations of certain frequencies while passing others. For audio use the most common electronic filter is a bandpass filter.	20 21 22
	User Preset; User preset files that store any advanced presets that you have created.	23 24
	The number of repetitions per unit time in a complete waveform.	25
<b>filter</b>		
<b>FLT</b>		
<b>frequency</b>		

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<b>GIF</b>	Graphic Interface Format; A standard, compressed graphic file format.
<b>hertz (Hz)</b>	A unit of frequency equal to one cycle per second. [After Heinrich Rudolf Hertz.]
<b>high-pass filter</b>	A filter having a passband extending from some finite cutoff frequency (not zero) up to infinite frequency.
<b>HTTP (Hypertext Transfer Protocol)</b>	The name for the protocol that moves documents around the Internet/Web. Used by the various servers and browsers to communicate over the net.
<b>Internet</b>	A global network connecting millions computers. As of 1998, the Internet has more than 100 million users world-wide, and that number is growing rapidly. More than 100 countries are linked into exchanges of data, news and opinions.
<b>Kilobytes per second (Kbps)</b>	A unit of measurement that represents thousands of bits per second. It is a measure of bandwidth (the amount of information that can flow in a given time) on a data transmission medium such as twisted-pair copper cable or coaxial cable.
<b>Kilohertz (kHz)</b>	A unit of alternating current (AC) or electromagnetic (EM) wave frequency equal to one thousand hertz (1,000 Hz). The unit is also used in measurements or statements of signal bandwidth.

	Liquid Audio Stream; Early version of the Liquid Master file. This is included for backward compatibility. The Liquifier Pro 4.0 will open LA1 files the same way that it opens LQM files, except that the File>Save option is automatically enabled. If you save an LA1 file, it is automatically converted to an LQM file.	1 2 3 4 5 6
<b>LA1</b>		
	Liquifier Audio Workspace; A file that maintains the state of the Liquifier throughout the LQM creation process. You can save your work in progress using LAW files. LAW files are the default document type of the Liquifier Pro.	7 8 9 10 11
<b>LAW</b>		
	A compressor with a fixed ratio of 10:1 or greater. The dynamic action effectively prevents the audio signal from becoming any larger than the threshold setting.	12 13 14
<b>limiter</b>		
	A pulse code modulation system in which the signal is converted directly to a PCM word without companding, or other processing.	15 16 17
<b>linear PCM</b>		
	Software that lets consumers preview or purchase CD-quality music from the Internet . Also lets consumers see album graphics, lyrics, liner notes and promotions while listening. to audio	18 19 20
<b>Liquid Music Player</b>		
	Software that manages the encoded music content and guarantees secure delivery and tracking of CD-quality music over the Internet.	21 22 23 24 25
<b>Liquid Music Server</b>		

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**Liquid Operations Center**

A third-party entrusted system for delegating and enforcing licensing between the key parts of the system -- licenses for consumers using the Liquid Music Player, distributors using the Liquid MusicServer, and publishers using the Liquifier.

**Liquid Track**

A proprietary audio format that allows consumers to listen to audio over the Internet while viewing album art, lyrics and other recording information. Also enables users to purchase songs online via protected, secure downloads, or you may opt to have the physical CD mailed to you.

**low-pass filter**

A filter having a passband extending from DC (zero Hz) to some finite cutoff frequency (not infinite). A filter with a characteristic that allows all frequencies below a specified rolloff frequency to pass and attenuate all frequencies above. Anti-aliasing and anti-imaging filters are low-pass filters.

**LQM**

Liquid Master; The output of the Liquifier Pro. This file contains compressed audio images, text and graphics information. LQM files provide the content for the consumer experience in the Liquid Music™ System.

**LQT**

Liquid Track; A file type that the Liquid Music Player creates when it downloads music off the Internet to your local hard drive.

**LSL**

Liquid Song List; The file for storing track lists in the player.

	As a measure of computer processor storage and real and virtual memory, a	1
	megabyte (abbreviated MB) is 2 to the	2
<b>Megabyte (MB)</b>	20th power bytes, or 1,048,576 bytes in	3
	decimal notation.	4
	A computer peripheral device that	5
	employs a digital to analog converter to	6
<b>modem</b>	MODulate and DEModulate the data	7
	stream from binary to analog and vice	8
	versa. Modems enable transmission of	9
	computer data through telephone lines.	10
	A working group within SMPTE who	11
	set, among other things, specifications	12
<b>MPEG (Moving</b>	for compression schemes for audio and	13
<b>Picture Experts</b>	video transmission. A term commonly	14
<b>Group)</b>	used to make reference to their com-	15
	pression scheme (MPEG-2) for full	16
	motion video.	17
	A digital multi-channel audio format,	18
	which uses a source PCM stream to	19
<b>MPEG-2 AAC</b>	compress it at a sample rate of 48 kHz	20
	and a sample size of 16 bits. It is of a	21
	higher quality than CD-Digital and can	22
	have up to 7.1 surround-sound channels.	23
	A multi-band variable equalizer offer-	24
	ing control of all the parameters of the	25
	internal bandpass filter sections. These	
<b>parametric</b>	parameters are amplitude, center fre-	
<b>equalizer</b>	quency and bandwidth. This allows the	
	user not only to control the amplitude of	
	each band, but also to shift the center	
	frequency and to widen or narrow the	
	affected area.	



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**passband**

The range of frequencies passed by an audio low-pass, high-pass or bandpass filter. Normally measured at the -3 dB point: the frequency point where the amplitude response is attenuated 3 dB (decibels) relative to the level of the main passband. For a bandpass filter two points are referenced: the upper and lower -3dB points. The -3dB point represents the frequency where the output power has been reduced by one-half.

**PCM (Pulse Code Modulation)**

Pulse Code Modulation is used to sample analog audio into digital code and to structure the analog signal that is produced by the digital-analog converter of the CD-Audio player. PCM technology makes it possible to hear the various instruments, their different ranges and depth of sound.

**preset**

A Dolby Digital AC-3 or MPEG-2 AAC algorithm configured at different data rates for compressing and encoding audio files.

**Q (Quality factor filter)**

The selectivity factor, defined to be the ratio of the center frequency (f) divided by the bandwidth (BW).

**sampling**

The conversion of an analog signal, varying continuously in time, into a sequence of numbers (or samples) that represent the signal values at discrete moments in time. CD-Quality audio uses a sampling rate of 44.1 kHz, and sample size of 16 bits.

**sampling rate**

The frequency at which an analog signal is sampled or converted into digital data. Expressed in Hertz (cycles per second).

	Measurement of audio duration as	1
	established by the Society of Motion	2
<b>SMPTE timecode</b>	Picture and Television Engineers.	3
	Expressed in	4
	hours:minutes:seconds:milliseconds	5
	.	6
	A technique for processing data so it	7
	can be transferred as a steady and con-	8
	tinuous stream. With streaming, the cli-	9
<b>streaming</b>	ent browser or plug-in can start playing	10
	the audio before the entire file has been	11
	transmitted. For streaming to work, the	12
	client side receiving the data must be	13
	able to collect the data and send it as a	14
	steady stream to the application that is	15
	processing the data and converting it to	16
	sound.	17
<b>TXT</b>	A formatted text file for media	18
	templates.	19
		20
<b>URL (Uniform Resource Locator)</b>	A Web address. A consistent method	21
	for specifying Internet resources in a	22
	way that all Web browsers understand.	23
		24
<b>watermarking</b>	Embeds inaudible digital data in an	25
	audio file which identifies authentic	
	copies of the music. Watermarking is	
	used to trace the origin of music even if	
	it is recorded to analog media, such as a	
	cassette.	

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**WAV**

A proprietary audio file format sponsored by Microsoft and IBM. The Resource Interchange File Format Waveform Audio Format (.wav) was introduced in MS Windows v3.1 and is most commonly used on Windows-based PCs. WAVE files require approximately 10 MB/min for 16-bit samples with a sampling rate of 44.1kHz, but 8-bit, 8kHz, single channel versions are often offered by sites.

**WAV**

A Windows standard audio file format.

**waveform**

The pattern of a sound wave or other electronic signal in analog form.

**waveform audio**

Sound waves that have been digitized and stored in the computer. The most common digital audio formats are music CDs and Windows WAV files. Music CDs are played in CD players as well as CD-ROM readers. WAV files are stored in the computer or on CD-ROMs and played by a media player software application.

**WWW (World Wide Web)**

A system of Internet servers that support specially formatted documents. The documents are formatted in a language called HTML (HyperText Markup Language) that supports links to other documents, as well as graphics, audio, and video files.

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